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Examiners' Report June 2009

Principal Learning

Construction and the Built Environment Level 3

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Principal Learning Construction and the Built Environment

Level 3 Introduction

This was the first series of the Principal Learning in Construction and the Built Environment in which all units were offered. Of these, only Units 6 and 7 did not attract any entries. Generally, the coursework submitted for moderation was of a good standard. However, the externally assessed units produced a mixed level of response to the questions. The coursework portfolios submitted followed a logical format with a well developed brief usually derived from the Edexcel Sample Assessment Material and then applied to the locality of the centre. As such it was clear to the learners what they had to do to access marks across all Mark Bands.

Some aspects of centre administration were not properly addressed i.e. OPTEMS/EDI should be included with the samples and incomplete Candidate Record Sheets i.e. centre number, candidate number, candidate signatures etc. Also, some of the learners' work was not annotated by the assessor to highlight where marks had been awarded.

In some cases marking was lenient and centres must ensure they allocate marks in accordance with the Marking Grids. Further clarification of the mark allocation can be gained from the 'applying marks in the marking grid' section of the unit specification. The Tutor Support Material and Sample Assessment Material that are available on the Edexcel website also provide information regarding specific assessment requirements.

The quality of feedback to the learners needs to be addressed as it ranged from outstanding to very limited, even within the same Centre. Feedback to the learners should be constructive, positive and suggest how learners can improve their current and any future submissions. Also, the assessor's comments will clearly inform the learners how an assessment decision has been made.

Level 3 Unit 1 Design the Built Environment: The Design Factors

Question 1
As an introduction to the paper the responses showed a reasonable understanding of the social or economic factors that influence the design of the built environment. However, more application of how the factors identified could affect a project's design would have improved the answers.

Question 2
This question was particularly well answered with learners demonstrating a good understanding of the crime reduction measures available to designers when planning the layout of an housing estate. The majority of learners were able to provide a detailed description of at least two relevant crime reduction measures.

Question 3
Generally, the responses to this question indicated that most learners have a limited awareness of procurement strategies or the importance of time, cost and quality to different types of client. Centres need to ensure that they cover all areas of the specification together with the teaching guide that provides guidance on the coverage and the depth of delivery that is expected when preparing learners for the examination.

Question 4
The answers to this question suggested that the learners had been well prepared regarding the benefits to the local community of a well designed urban green space. Most learners were able to discuss in detail at least 5 benefits to the local community. Where possible the learners discussed a diverse range of benefits that allowed them to demonstrate the full extent of their knowledge.

Question 5
Most learners demonstrated that they had reasonable knowledge of the advantages of developing brownfield sites rather than large areas of greenfield land. However, better informed learners developed their answer to focus on why the government is encouraging developers to use brownfield sites.

Question 6
The wide range of responses indicated that learners had been well prepared and were aware of the measures that a developer can use to achieve a zero carbon house. However, to maximise the marks available learners need to be guided to follow the command word(s) i.e. only a small number of learners **evaluated** the measures they had identified.

Question 7
The comments made regarding Q6 are also applicable to this question in that the learners had a reasonable knowledge of the Modern Methods of Construction. However, few learners followed the main requirement of the question to relate the methods to the design team in terms of function, form and aesthetics. Most learners either discussed the sustainable measures they had identified in Q6 or related the Modern Methods of Construction to the construction phase.

Level 3 Unit 2 Design the Built Environment: Stages in the Design and Planning Processes

General comments

This unit requires the learner to explore urban design and its influence on the urban environment. Upon completion of the unit the learner should be able to demonstrate knowledge of the processes and procedures that develop the client's needs into a design proposal and the impact of planning requirements on the design. Similarly, the learner should be able to demonstrate knowledge of the decision-making stages in the design and planning processes and the wider influences on major project planning. An understanding of the job roles and relationships with each other as well as potential career pathways and qualification requirements should be demonstrated.

Learning Outcome 1

Most learners achieved at least Mark Band 2 with evidence of clear descriptions of a range of factors affecting the proposed design for the urban environment studied. The section regarding improvements for the infrastructure and transport services was well developed with relevant application of general points to the scenario.

Learning Outcome 2

This Learning Outcome was not as well developed, with learners showing an understanding of the design process and in particular the RIBA Plan of Work. The requirements of the 'green client', however, had little coverage.

Learning Outcome 3

Generally there were clear descriptions of the stages of the planning process with some expansion regarding regulatory requirements and legislation. More application to the scenario would have enhanced the responses.

Learning Outcome 4

The job role publications, word search puzzles etc were informative and showed a good level of understanding. Some further development is required regarding aspects of team-working and the role and influence on the sector of the professional institutions. Centres should also ensure that all learners reference their source(s) of information used.

Level 3 Unit 3 Design the Built Environment: Physical and Environmental Influences

This unit requires the learner to explore how health, safety and environmental factors can influence the design of the built environment. Similarly, the learner should be able to demonstrate an awareness of good practice in designs that offer sustainable construction, the reduction of emissions to air, land and water and the use of renewable energy. An understanding of the importance of the integration and distribution of incoming utilities together with alternative energy efficient designs should be demonstrated.

Learning Outcome 1
The range of responses indicated that learners had been well-prepared regarding general health and safety responsibilities and regulatory requirements. However, the health and safety knowledge gained by learners should then be applied to its influence on the design of a project rather than managing it during the construction phase. A number of learners produced well developed sections regarding risk management in terms of falls from height that were not relevant to the Learning Outcome. Most learners demonstrated a reasonable understanding of the key responsibilities and environmental factors.

Learning Outcome 2
Generally, the responses showed a wide range of understanding of the primary services utilities. The better responses suggested how the services could be integrated into the building studied.

Learning Outcome 3
All learners demonstrated an understanding of aspects of global warming and climate change. The better responses included references to regulatory requirements, legislation and reducing emissions to air.

Learning Outcome 4
Most learners produced clear descriptions of traditional and renewable energy sources. However, the energy sources were rarely justified and evaluated in relation to the building studied.

Level 3 Unit 4 Create the Built Environment: Health, Safety and Environmental Influences

Question 1
Learners were generally not aware of the specific requirement to carry out risk assessments or implement control measures under the Management Regulations. The responses focused on the duties of the employer under the Health and Safety at Work Act with regard to providing a safe place of work, safe equipment etc. Some responses described requirements of other regulations, specifically Working at Height and asbestos related.

Question 2
The majority of responses failed to focus on the working practices carried out during concreting operations and learners used general health and safety responses, particularly the use of personal protective equipment, safety signs and barriers without stating the reasons for their use. Some learners described different on-site concreting techniques and did not address safe working practices.

Question 3
The majority of learners responded well to the on-site sustainability procedures description and provided good appropriate responses mainly focused on sorting of waste into skips and the correct and efficient use of materials. Some learners mistakenly focused on general household and factory waste and recycling rather than focus on construction on-site management procedures. A minority focused on procedures to reduce waste at the design stage rather than on-site procedures.

Question 4
Responses to this question were weak with very few learners able to provide correct descriptions of appropriate non-recoverable costs. The majority of learners confused the costs with payment of workers or costs for materials, scaffolding, skips etc.

Question 5
Most learners provided a basic description of an appropriate protection method for the adjacent structures, with the majority of responses using either a scaffold or site fencing. Very few learners attempted to evaluate the chosen method and responses were weak. The overall quality of sketches used to support the written description was very poor and provided very basic information and detail.

Question 6
This question was well answered by the majority of learners who analysed the fatal injuries chart well, and used the identified type of accident to formulate an appropriate response. The majority of learners were able to provide five different descriptions of relevant working procedures linked directly to the chart provided.

Question 7
(a) Many learners' responses failed to define an environmental accident and confused the term with natural events such as earthquakes, storms and flooding.
(b) Responses to this part of the question were weak with the majority of learners who confused the term with either health and safety accidents or effects of the weather. The majority of incorrect responses included accidents involving falls from height, electrocution, asbestos etc and general accidents caused when working during wet and cold conditions.

Question 8
Learners generally provided good descriptions of the benefits of using biomass fuel as an energy source, with responses mainly focussed on the degree of impact on the environment and the renewable nature of the fuel. However very few provided any appropriate analysis to support the descriptions.

Question 9
(a) The majority of learners did not attempt this part of the question and very few provided an appropriate response related to patterns and levels of to energy use. Some learners focussed on the purpose of a health and safety audit and described noise and dust assessments. The audit was also confused with the Construction Design and Management Regulations with regards to features of the design and methods of providing health and safety management.
(b) The majority of learners provided answers related to health and safety risk assessments, particularly working at height, demolition, dust, asbestos and noise. Very few learners correctly identified appropriate processes suitable to the scenario.
(c) Very few learners were able to identify or describe a recognised energy rating system.

Question 10
The majority of learners provided an answer based on safety issues rather than on health issues, and incorrectly provided information on preventing falls from height, safe use of machinery, safe places of work etc. Very few learners identified appropriate health issues relevant to the scenario, which included asbestos, dust and chemicals. Although many learners provided a substantial amount of written work, few marks could be allocated due to the confusion between health and safety issues. The majority of learners provided poorly structured reports with no introduction or conclusion and a main content consisting of brief descriptions or lists of unrelated or incorrect health issues.

Level 3 Unit 5 Create the Built Environment: Management Processes

General comments

This unit requires the learner to identify and evaluate the construction processes to construct the substructures and superstructures of a range of built structures, including finishes and services. Upon completion of the unit the learner should be able to identify and evaluate a range of quality assurance and monitoring processes needed to ensure a project meets the given specification throughout the construction process. The learner should also be able to demonstrate knowledge and understanding of a range of project management processes and techniques and examine job roles and their relationships with each other, potential career pathways and qualification requirements.

Learning Outcome 1

The range of responses indicated a good understanding of the construction processes required to create elements of both substructure and superstructure for traditional and modern methods of construction. The majority of learners provided well annotated details to support the written descriptions especially for different types of elements, however descriptions of services and finishes was rather limited in content.

Learning Outcome 2

The range of responses produced for the site induction process focussed on health and safety issues and generally lacked sufficient information regarding site layout, planning and storage. Descriptions of quality monitoring on-site and communications between the team and client produced limited responses with most learners achieving mark band one.

Learning Outcome 3

Learners generally produced basic Gantt charts showing some appropriate sequencing of operations but containing limited information; very few responses included any environmental or cost considerations. The descriptions of key procurement processes, techniques and management skills were not adequately addressed and had limited coverage within the responses.

Learning Outcome 4

Responses tended to focus on the roles, responsibilities and interactions of off-site construction professionals rather than concentrate on the on-site interactions between craft, technical and supervisory roles. Generally the responses contained good clear descriptions of relevant progression paths and qualifications but lacked clear descriptions of the role of professional institutions.

Level 3 Unit 6 Value and Use of the Built Environment: Adding Value to the Wider Community

There were no entries for this unit in June 2009.

Level 3 Unit 7 Value and Use of the Built Environment: Protecting and Maintaining

There were no entries for this unit in June 2009.

Statistics

Level 3 Unit 1 Design the Built Environment: The Design Factors

	Max. Mark	A*	A	B	C	D	E
Raw boundary mark	60	53	47	41	35	29	23
Points Score	14	12	10	8	6	4	2

Level 3 Unit 2 Design the Built Environment: Stages in the Design and Planning Processes

	Max. Mark	A*	A	B	C	D	E
Raw boundary mark	60	53	47	41	35	29	23
Points Score	21	18	15	12	9	6	3

Level 3 Unit 3 Design the Built Environment: Physical and Environmental Influences

	Max. Mark	A*	A	B	C	D	E
Raw boundary mark	60	53	47	41	35	29	23
Points Score	21	18	15	12	9	6	3

Level 3 Unit 4 Create the Built Environment: Health, Safety and Environmental Influences

	Max. Mark	A*	A	B	C	D	E
Raw boundary mark	60	53	47	41	35	29	23
Points Score	14	12	10	8	6	4	2

Level 3 Unit 5 Create the Built Environment: Management Processes

	Max. Mark	A*	A	B	C	D	E
Raw boundary mark	60	53	47	41	35	29	24
Points Score	21	18	15	12	9	6	3

Notes

Centres are reminded that this is the first summer examination for this new specification and that boundaries may change in the following series

Maximum Mark (raw): the mark corresponding to the sum total of the marks shown on the Mark Scheme or Marking Grids.

Raw boundary mark: the minimum mark required by a learner to qualify for a given grade.

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