6720-21 Level 2 Technical Award in Constructing and Maintaining the Built Environment

6720-002 & 502 Level 2 Constructing and Maintaining the Built Environment - Theory exam

March 2022 Mark Scheme

Q no.	Acceptable answer(s)	Guidance	Max mks	Ref
Q1	**One** mark each for any **two** of the following answers. • Maintenance and repair. • Refurbishment and adaption. • Demolition.	Accept as correct any answer that says construction, civil/structural engineering and building services.	2	6720.201.01.01 AO1
Q2	Any **three** points from the following, **one** mark each. Gantt charts allow a clear visual view of tasks to be displayed against time, for the duration of a project (1). They can show interdependencies and overlapping of activities in a project (1), allowing for better communication between trades (1). They allow contractors to organise and schedule their resources more effectively (1) and can be used as a motivational or appraisal tool (1). They are easy to produce using simple and inexpensive software (1) and the charts are easy to update/amend (1).		3	6720.201.02.03 A02
Q3	Toolbox talks	Do not accept: Site meetings	1	6720.201.02.02 A01
Q4	a) Strip b) Raft c) Pile d) Pad		4	6720.202.01.02 A01
Q5	Subsoil water drainage/land drainage	Accept 'field drain' or 'soakaway'.	1	6720.202.01.03 A01

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Q6	<u>Advantages (2 marks)</u> Any **two** marks from the following. A solid floor is much cheaper due to reduced labour costs as once the footing is complete it is a simple case of pouring the concrete (1). The solid floor can withstand greater loads than the suspended beam and block floor (1). Unlike the suspended beam and block floor it provides no cavity in which animals can nest (1). Is energy efficient due to its good thermal mass (1). <u>Disadvantages (2 marks)</u> Any **two** marks from the following. Concrete slabs require a just in time delivery of concrete and a limited pouring time (1), there will be delays if the temperature is not appropriate for the pour (1), access to site can sometimes be an issue for heavy goods (1) more prone to damp issues (if the membrane is penetrated) as it is in contact with the ground (1).		4	6720.202.02.02 AO2
Q7	**One** mark for identification and **one** for a brief description, to a maximum of **four** marks. • Can lead to significant programme delays (1) as the finish cannot be applied in wet or cold weather (1). • It requires scaffolding to be erected and left up until finished (1) which can be expensive when faced with inclement weather (1). • Limited labour resources available (1) due to skilled finishers being in high demand (1). • Variation in the quality of finish (1) is determined by the skill and experience of the renderer (1). • Structurally, sand and cement is inflexible so it is prone to cracking (1) which can lead to regular maintenance costs (1).		4	6720.202.03.02 A02

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Q8	**One** mark each to a maximum of **three** marks. • Studwork (1) • Floors (1) • Roof trusses (1) • Joists (1) • Staircases (1) • Windows (1) • Window Boards (1) • Exterior Doors (1) • Internal Door Linings (1) • Noggins (1) • Mid/Full height bathroom boxing's (1) • Any other relevant response.		3	6720.204.01.01 A01
Q9	• Greater compressive strength (1) • Low water porosity (1)	Accept 'higher density' or 'greater durability'.	2	6720.202.04.02 A01
Q10	Any **two** from below to a maximum of **two** marks. Building obsolescence is a reduction of a building's usefulness or desirability (1) because of an outdated design feature that cannot be easily changed (1), meaning it can no longer perform the functions for which it was designed (1) or be competitive in an open market (1). For example, a house may lack modern kitchen and bathroom facilities (1).		2	6720.203.01.02 A02
Q11	Any **two** from the following answers at **one** mark each. • Weather (1) • General wear & tear (1) • Vandalism (1) • Bad design (1) • Bad workmanship (1) • Fire (1) • Flooding (1)		2	6720.203.01.02 A02

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Q12	Either of the following with **one** mark for identification and **one** for a brief description, to a maximum of **four** marks. • Creates a safer environment (1) as the building is regularly checked (1). • Easier to keep to a budget (1) as by following a schedule, you can pinpoint times when you will need to replace parts (1). • Longer building life (1) due to elements and components being kept in their best possible shape (1). • Less energy wasted and reduced bills (1) as the heating systems are regularly serviced (1). • Less disruption and costs incurred by sudden emergency maintenance issues (1) as small inexpensive repairs are identified early (1).		4	6720.203.02.01 A02
Q13	Any **three** of the following at **one** mark each. • Roof (1) • External walls (1) • Internal walls (1) • Doors and windows (1) • Floors (1) • Services (1)		3	6720.203.03.01 A01
Q14	**One** mark for each answer to a maximum of **three** marks • Cracked/slipped or missing roof tiles (1) • Blocked guttering and downpipes (1) • Ridge tiles that need repointing/bedding (1) • Chimney/flashings that need re pointing (1) • Mold, fungus or rot in roofing timbers due to leaks or condensation (1) • Fascia and soffit missing/rotten (1) • Tears in the roofing felt (1) • Damage lead work to the roof (1)		3	6720.203.03.02 A01

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Q15	Any **three** from the following answers at **one** mark each. • Preparing surfaces (sanding down) (1) • Applying paint systems (applying base coat) (1) • Hanging wallpaper (1) • Fixing cornices, ceiling roses (1)		3	6720.204.01.01 A01
Q16a	Any **two** marks from the following. A document that details the way a work task is to be completed safely (1). Frequently requested as part of the tender process (1). It should outline the hazards involved with each task (1) a step guide on how to do the job safely (1). It must also detail which control measures have been introduced to ensure the safety of anyone who is affected by the task (1).		2	6720.204.02.02 A02
Q16b	Any **three** marks from the following. A method statement is provided by each trade contractor (1) and they must provide adequate training to their employees (1) to ensure competency for the task in hand (1). When being inducted each employee/tradesperson must read all method statements provided (1) and sign to say they understand and agree to follow the safe systems of work (1). They ensure that whatever the experience level (1), all employees from each trade, follow the safe systems laid down by their employers (1), ensuring that hazards and risks are considered at all times (1).		3	6720.204.02.02 A02
Q17	Any **three** answers at **one** mark each. • Clients (1) • Principal Designer • CDM coordinator (1) • Principal Contractor (1) • Designers (1) • Contractors (1) • Workers (1)		3	6720.204.02.01 A01

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Q18	Any **two** answers at **one** mark each. • Hearing protection (1) • Gloves (1) • Mask (1) • Goggles/safety glasses (1)		2	6720.204.03.01 A01
Q19	For no awardable content, award 0 marks. **Mark band 1 (1-3 marks)** The candidate has identified a limited number of factors without linking these directly to the refurbishment/extension project and has briefly described how a few of the factors interact with each other but with no supporting statements. **Thoroughness of response** Poor coverage only referencing a limited number of factors from the indicative content. No supporting statements. **Relevance** Factors are mostly considered in isolation and only a limited number are linked directly to the project. **Accuracy** Descriptions are brief and may include poor use of correct terminologies and show elements of confusion. **Considered** Describes how a few of the factors interact with each other but with no supporting statements and only a limited comparative assessment of sub and superstructure elements and internal finishes etc. **Supported** The candidate draws no conclusions from their discussions. **Mark Band 2 (4-6 marks)** The candidate has identified a broad range of factors, has accurately linked most of these to the refurbishment/ extension project, and has clearly considered how the majority of the factors interact with each other, supported by examples. **Thoroughness of response**	**Indictive content;** Reasons for refurbishment/extension, cost, effect on surrounding built environment, who to involve, procedures to be followed, consideration of type of new foundations and external walls (traditional or timber frame etc.), timber or concrete ground floors, flat or pitched roof, internal partitions, internal finishes, proximity issues, party wall issues and health and safety concerns regarding site set up and considerations with the integral garage. Consideration of the building's sustainable credentials and how this can be achieved/improved. Design, planning, building control approval and appeal.	9	6720.201.01.01 6720.201.02.01 6720.202.01.02 6720.202.02.01 6720.202.02.02 6720.202.02.03 6720.202.03.01 6720.202.03.02 6720.202.03.03 6720.203.01.02 6720.203.03.02 AO4

	Reasonable coverage of a broad range of factors from the indicative content, covering reasons for refurbishment over buying a new property, human resources are considered and there is discussion of sub and superstructure elements. Most of the factors discussed are clearly linked to the project. **Relevance** The majority of factors considered are accurately linked to the refurbishment/extension project. **Accuracy** Logical application of knowledge and accurate use of key terminologies. Most factors are accurately linked to the project. **Considered** Clearly considers how the majority of the key factors interact with each other i.e. proximity issues affecting the roof shape and external wall design etc. (acoustically and fire protection – internal garage). Considers the disruption caused to neighbours and how this informs building methods and working hours etc. **Supported** Links made between key factors and some conclusions drawn regarding reasons for extending, built environment and sub and superstructure decisions and internal finishes etc. **Mark Band 3 (7-9 marks)** The candidate has identified a comprehensive range of factors, has clearly and accurately linked all or nearly all of these to the refurbishment/extension project, and has clearly considered how all or nearly all of the factors interact with each other, in an in-depth and evidenced manner. The candidate will discuss the key issues when considering all sub and superstructure factors and offer suitable conclusions. **Thoroughness of response** Thorough discussion with detailed explanations, which consider a comprehensive range of key factors from the indicative content Relevance All or nearly all points are clearly and accurately linked to the project.			

	Accuracy Good use of terminology and understanding of the key factors/elements and components that underpin the building process. **Considered** Clearly explains how all or nearly all of the factors interact with each other in an in-depth and evidenced manner. Considers the procedures that must be followed and the tradespeople and professionals who will be procured for the works. **Supported** Any conclusions drawn will be the result of thorough analysis and consideration of the factors that will have the greatest impact on the success of the project.			