Unit 202: Changing practices over time

Worksheet 6: BIM and MMC (Learner)

Task 1: Answer the following questions on BIM and MMC in groundworks/civil engineering. Circle the correct response.

1. What is BIM?

a Building information management.

b Building inspection management.

c Building information modelling.

d Building inspection modelling.

1. What is the purpose of using MMC techniques?

a To increase the amount of construction waste.

b To increase the amount of time required onsite.

c To reduce the amount of construction waste.

d To reduce the efficiency of the construction process.

1. What is the main benefit of using BIM in groundworks/civil engineering?

a Reducing construction waste.

b Improving collaboration between stakeholders.

c Faster construction process.

d Better quality control.

1. Which of the following is NOT a feature of BIM in groundworks/civil engineering?

a 3D modelling.

b Accurate cost estimation.

c Real-time project tracking.

d On-site construction management.

1. How does BIM help in identifying design conflicts in groundworks/civil-engineering projects?

a By providing a detailed and accurate 3D model of the project.

b By allowing stakeholders to work together in real time.

c By automating the design review process.

d By reducing the need for manual calculations.

1. What is the main benefit of using MMC in groundworks and civil-engineering projects?

a Reduced cost of materials.

b Reduced time required onsite.

c Increased complexity of design.

d Increased risk of construction errors.

1. Which of the following is an example of MMC that can be used in groundworks and civil-engineering projects?

a Traditional bricklaying.

b Hand-dug excavation.

c Manual mixing of concrete onsite.

d Offsite manufacturing of precast concrete elements.

1. What is the impact of using MMC in groundworks and civil-engineering projects on the amount of construction waste produced?

a It increases the amount of waste.

b It has no impact on the amount of waste produced.

c It reduces the amount of waste produced.

d It depends on the type of MMC used.

1. Which of the following is NOT a benefit of using MMC in groundworks and civil-engineering projects?

a Reduced construction time.

b Improved sustainability.

c Increased cost of materials.

d Improved safety onsite.

1. Which of the following is a challenge that may arise when using MMC in groundworks and civil-engineering projects?

a Increased risk of design conflicts.

b Reduced quality of construction.

c Increased need for onsite labour.

d Increased construction waste.

Task 2: Answer the following questions about MMC in groundworks/civil engineering.

1. What is modular construction?

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1. What are the benefits of modular construction?

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1. What is 3D volumetric construction?

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1. What are the benefits of using 3D volumetric construction in groundworks/civil engineering?

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1. What are precast flat panel modules?

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1. What are precast flat panel modules used for in groundworks/civil-engineering projects in the UK?

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1. What advantages do precast flat panel modules offer over traditional onsite concrete pouring methods?

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1. What is the hybrid concrete building technique?

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1. What are the advantages of using the hybrid concrete building technique in groundworks/civil-engineering projects?

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**Task 3:** Answer the following questions on surveying and setting-out technologies.

1. What is drone surveying in construction?

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1. How can drone surveying improve safety on construction sites?

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1. What are the benefits of using drone surveying in construction?

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1. What is a robotic total station and how is it used in construction surveying?

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1. What are the benefits of using robotic total stations and GPS in combination in construction?

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