

2019 - 2020

5<sup>th</sup> year

Construction Studies

Summer Assessment



Ms Power

Answer any 2 of the following 3 Questions

*Complete the work and photograph your work, then email it to  
[roisinpowers@kwetb.ie](mailto:roisinpowers@kwetb.ie)*

1

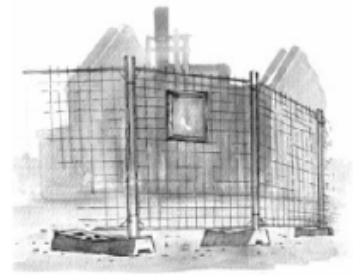
(a) List **two specific** safety precautions to be observed when using:

- an angle grinder to cut a mild steel reinforcing bar;
- a nail-gun to attach a timber batten to a concrete wall;
- an electrical extension lead on a construction site.

(b) Using *neat freehand sketches*, show the safety signs to indicate that the following personal protection equipment must be worn:

- a hard hat;
- safety goggles.

(c) Outline **two** additional safety precautions that a worker on a construction site should take to ensure personal safety.



2

An extension to the side of a dwelling house has a lean-to roof, as shown in the accompanying sketch. Also shown is an underground rainwater storage tank.

(a) Using notes and *neat freehand sketches*, show how the rainwater is collected from the lean-to roof and discharged to a gulley trap at ground level. Label the components and give their typical sizes.

(b) The rainwater is conveyed to the underground water storage tank for re-use. Using notes and *neat freehand sketches*, show the pipework necessary to convey the rainwater from the gulley trap to the storage tank and show the location of a rainwater filter in this system.

(c) Discuss **two** advantages of storing rainwater and give **two** suitable uses for the stored rainwater.



3

The sketch shows a reinforced concrete strip foundation, and a 400 mm cavity wall for a new house.

(a) Using notes and freehand sketches show the typical construction details of the strip foundation supporting the concrete block wall. Indicate the position of the wall on the foundation **and** the location of the steel reinforcement in the foundation.

Include **three** typical dimensions in your sketch.

(b) Using notes and freehand sketches, show **one** method of connecting the inner and outer leaves of the wall.

(c) Discuss **two** advantages of using ready-mixed concrete in the foundations of a dwelling house.

