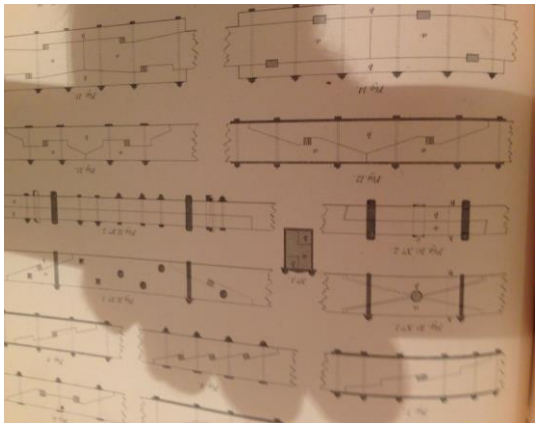
**Assessment of Learning Outcomes of *Joints* taught by Edgar Stubbersfield.**

**Date _____**

**PERSON BEING ASSESSED _____**

**Learning Outcome 1 – Learn the difference between new and old joints**



According to the presenter, historical joints are characterised by.

1. _____
2. _____
3. _____

According to the presenter, modern joints are characterised by.

1. _____
2. _____
3. _____

**Learning Outcome 2 –** Learn why joints have to be durable

How old was the joint in the Ascot deck collapse?

_____

What does that teach us about joints?

_____

_____

**Learning Outcome 3 –** Examine whether to use galvanized or stainless fasteners

Name two species that can corrode fasteners

1 _____ 2._____

What bolts can be used on CCA treated timber in a coastal setting according to the Timber Preservers Association of Australia?

_____

According to the real life testing undertaken by BRANZ what bolts are required even in non coastal external applications to achieve a 50 year life?

_____

**Learning Outcome 4 –** Examine different ways to engage with the ground

What is the design life in SE Queensland of a correctly installed hardwood post going straight in the ground?

_____

Consider these two brackets,

List three advantages of the support on the right

1. _____
2. _____
3. _____

**Learning Outcome 5 -** Learn the correct use of nail plates and grips

When a plate has withdrawn 2-3 mm its holding ability is reduced by

_____

According to the manufacturer Pryda, are nail plates to be used in external applications

_____

According to the presenter, Quality products may not always be suitable products. What are the two examples he gives?

1. _____
2. _____

**Learning Outcome 6–** Lean good detailing in handrail connections

The presenter gave this handrail as an example of good design. Name three positives

3. _____

4. _____

5. _____

Illustrated is a volute washer. Where would you use them?

_____

_____

**Learning Outcome 7 –** Examine the use of shear rings and plates

Shear rings and plates were used to overcome limitations of traditional fasteners. How might shear rings be used today?

1. _____

2. _____

These laminated log footbridges have shear plates fitted internally on both logs where the bolts pass through. In the presenter's opinion, what is a limitation of these plates?

_____

_____

# Answers

**LO1. – Q1.** Any three of: a. Often used on large sections, b. labour intensive, c. Required considerable skill, d. Minimised the amount of steel, e. They weren't always good.

**LO1. – Q2.** Any three of: a. Often used on smaller sizes, b. They are not labour intensive, c. They do not require as much skill, d. They can maximise the amount of steel, e. They have to be good.

**LO2. – Q1.** 90 years.

**LO2. – Q2.** Joints do not come with a use-by date.

**LO3. – Q1.** Blackbutt and jarrah.

**LO3. – Q2.** Galvanised.

**LO3. – Q3.** 304/316 stainless and monel nails.

**LO4. – Q1.** 35 years.

**LO4. – Q2.** a. Support in two directions, b. Longer support, c. screw fastenings.

**LO5. – Q1.** 50%.

**LO5. – Q2.** No.

**LO6. – Q1.** a. sloping top, b. rail fastened from underneath, c. gap between the rails.

**LO6. – Q2.** The volute washer can take up 25mm shrinkage in timber joints.

**LO7. – Q1.** a. They allow very efficient joins in large timber members, e.g architectural trusses, b. they can assist where there is differential shrinkage.

**LO7. – Q2.** It is difficult to get composite action.