The theory areas are important parts of the level 3 assessment, comprised of three elements:

- *IRATA Job Planning Form (form 061) which should be completed from a scenario provided by the assessor.*
- *Equipment Inspection form (form 019) is to be completed specific to equipment provided by the assessor.*
- *Theory questions; 20 level 2 questions shall be given, these must include at least two questions from each of the seven syllabus category items listed in section 6 of the Technician assessment and Certification scheme, these questions should be completed on the assessment day*
- *Theory questions; 10 level 3 questions shall be given, these must include at least one question from each of the seven syllabus category items listed in section 6 of the Technician assessment and Certification scheme, these questions should be completed prior to the assessment day.*

Planning & Management

1. What are the Five Steps to Risk Assessment according to IRATA?

2. What information should be available on site as recommended by the IRATA ICOP?

3. Name three important considerations when signing other technicians' logbooks.

4. Explain how, where and why you would set up and enforce an Exclusion Zone.

5. How would you use the Safety Data Sheet (SDS) to determine whether a product had any harmful effects on rope or webbing?

6. Write a brief definition of each of the following categories of working at height; Work Positioning, Work Restraint, Fall Arrest.

Equipment

7. What is the SWL of a sewn tape sling with a breaking load of 25kN? What would be the SWL if the sling was lark's footed, or choked?

8. A CE mark on a PPE product indicates what?

9. Give the full EN standard for the following items of equipment;

    a) Low stretch rope
    b) Descender
    c) Helmet suitable for rope access
    d) Dynamic rope
    e) Carabiners
    f) Ascenders
    g) Full body harness

10. Define a "Competent Person" who is capable of caring out a "Thorough Examination."

11. What type/class of harness should you use in a fall arrest situation?

12. What type of karabiner locking mechanism is suitable for rope access?

13. Why are alloy karabiners prevented from use in some work environment such as the offshore oil sector?

14. What force can be applied to a toothed ascending device before it begins to damage the rope sheath?

Rigging

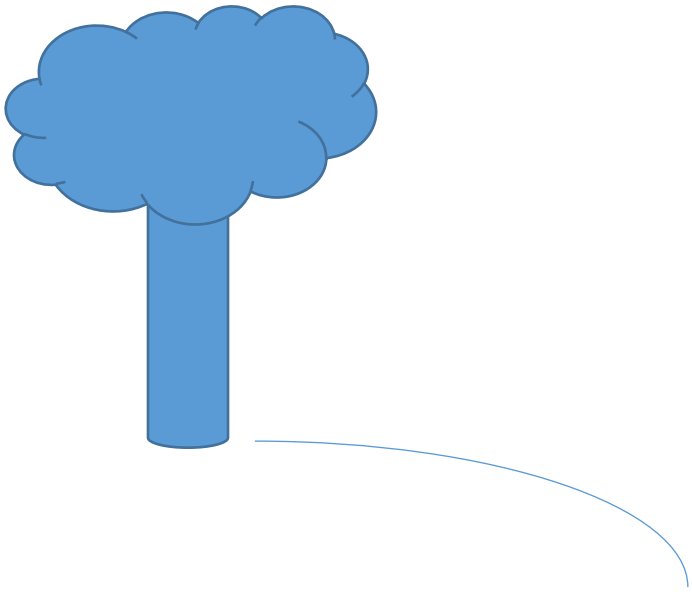
15. Draw a diagram of how you would rig a rope access system to descend for each of the scenarios involved: *(Be sure to indicate anchor selection, knot choices and other considerations):*

    a) Two structural i-beams 4m apart and staggered:

*position of abseil

b) A re-anchor across a structural i-beam: *(Be sure to indicate anchor selection, knot choices and other considerations):*

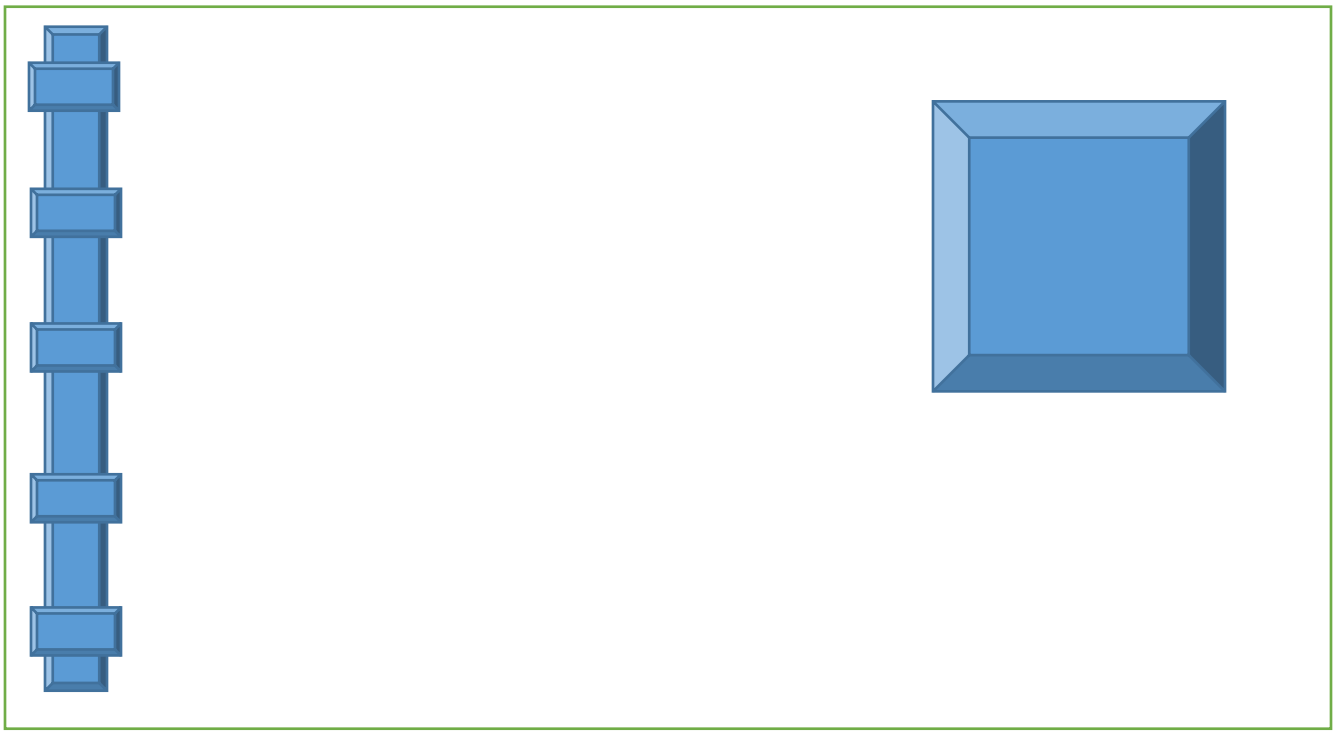
c) From a tree, with no strength reduction to the slings or rope:



d) Vertical Descent from the top of a flat roofed residential building:

(Structure to the left is a certified rail with anchors to the roof spaced 5m apart, the big structure to the right is the Mechanical Room)

<----------30m---------->



16. By what percentage does a larks foot or choker attachment weaken a tape sling?

17. What is the difference between a single anchor deviation and a double anchor deviation? Give an example of when you would use each.

18. What is the "critical angle" when rigging ropes with a "Y hang" and why?

19. What is the "critical angle" when rigging ropes with a "Deviation" and why?

20. When using rope protectors is it better to attach them to the structure or to the rope, Why?

21. If retrieving ropes with a "pull through" what should you be particularly aware of?

Rigging for Rescue and Hauling

22. List four situations where the loading of equipment or system used for rope access could exceed one person?

23. If you were hauling a load with a 2:1 mechanical advantage, and you added a 3:1 to it, and then a further 3:1 to that, what would the mechanical advantage now be?

24. What is the maximum mechanical advantage system you should use when tightening a tensioned line?

Climbing Techniques

25. What is the formula for working out fall factors?

26. Detail five key safety factors when considering lead climbing as a method of access.

27. Explain how, and in what circumstances a fall factor 5 might be achieved. Use a diagram if necessary.

Rescue Considerations

28. Name two factors that affect the self-breaking function of a descender?

29. How long do you think a "totally inert" technician (without muscular movement) could hang in a harness before medical difficulties occur?

30. When considering Suspension Intolerance in casualty rescue, after safety considerations what should be the priority?