Some AS revision practical questions

1. What does density measure?
   The number of individuals present

2. What does frequency measure?
   The presence or absence of a species at a sampling point

3. When calculating organic content of soil, why is it sometimes more useful to divide change in mass by dry soil mass instead of by initial soil mass?
   This way, the moisture content is not involved, which can vary considerably and affect the organic content percentages

4. On which side of the heart would you expect the chordae tendinae to be strongest?
   The left

5. Describe the chemicals and steps involved when calculating the carbon dioxide production of living material in a respirometer.
   Measure oxygen consumption using KOH then replace with water and record new manometer fluid value.

6. List three components of a good biological drawing.

- Continuous lines (not sketchy
- Proportional sizes
- Accurate representation of picture (shapes and what to include)

7. When making a root tip squash slide by tapping the cover slip, how should this be done?
   Vertical taps, repeated and not too forceful so as to preserve the general arrangement of cells.

8. When measuring water potential and solute potential by two different practicals, because it is a group of cells/a tissue, what word must be included in your title?
   Average

9. If you improve accuracy in a practical method, what is also then improved?
   Validity

10. What would repeating the experiment more times and calculating average results improve?
    Reliability

11. Name the three times when you should draw a line of best fit?

- Water potential
- Percentage plasmolysis
- Drawing a calibration graph/curve

12. When using the microscope and you turn the focus knob or rotate the eye piece how can you tell which is the eye piece graticule and which is the stage micrometer?
    Stage micrometer goes in and out of focus unlike the eye piece graticule. Also the EPG will rotate with the eye piece whereas the SM is unaffected

13. Name three ways of improving validity when using a colorimeter:
    - Rinse and ry cuvettes between samples
    - Fill cuvettes to correct level
    - Ensure it is oriented in the colorimeter correctly
    - Recalibrate regularly by placing the blank in the colorimeter and recalibrating if necessary

14. State two precautions to ensure accuracy when performing a serial dilution
    - Use fresh pipettes/syringes for each solution to prevent carry over
    - Mix solutions thoroughly at each stage

15. Describe an important step when reacting an enzyme and substrate at a specific temperature
    Bring each solution to the correct temperature separately before mixing