**Marking key - HB11 ATAR – Unit 1 – Task 6**

1. Compare and contrast the diseases osteoporosis and osteoarthritis by describing

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|  | Osteoporosis | Osteoarthritis |
| What is happening in each disease | Condition where the bone loses minerals like calcium at a faster rate than the body can replace them resulting in loss of bone density and weakening of the bones.  Bone thinning [2] | Condition where the articular cartilage inside a joint breaks down and becomes brittle. It can break off and float around inside the joint capsule.  Joint degeneration and inflammation [2] |
| The symptoms seen and how they relate to the structures that are affected. | Increased fractures, loss of height **due to** weaker bones[2] | Pain, swelling & loss of function **due to** wearing away of cartilage [2] |
| Causes or lifestyles that increase the risk of these diseases *at least 2 for each 1 mark each* | Insufficient calcium, smoking, lack of exercise, age [2] | Sedentary lifestyle, obesity, sports injuries or trauma [2] |
| Treatments or lifestyle choices that can be used to prevent, treat or reduce symptoms of the disease *at least 2 for each 1 mark each* | Increase calcium (diet or supplements) and weight bearing exercise  Surgery to fix fractures [2] | Exercise, pain killers, anti-inflammatories, may need surgery [2] |
| Methods used to diagnose the condition *1 mark each* | Bone density – X-ray or ultrasound [2] | X-ray or CT scan or MRI[2] |

[20 marks]

2. For each of the following, explain what is involved in the treatment, name one condition it is used to treat and why it is used rather than any other treatment.

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|  | What’s involved *2 marks* | Condition *1 mark* | Why used *1 mark* |
| Physiotherapy | Manipulation / electrical stimulation of muscles / exercises | Muscular or joint problems eg neck/ back/joint | Mild damage / mainly muscles/ligaments/ non-surgical intervention |
| Steroids | Drugs to reduce pain & swelling | Joint damage eg arthritis | More serious long term |
| NSAIDs | Drugs to reduce pain & swelling | Joint damage eg arthritis | Less serious, short term – less side effects |
| Joint reconstruction | Surgery to repair/replace ligaments or cartilage | Eg Cruciate damage / torn Achilles | Damaged part of joint – usually younger patients |
| Joint replacement | Surgery to replace a joint | Eg Hip, knee, finger | Arthritic joint – normally older patients |

[20 marks]