

Q1.

Total: 30 marks

(i)	
<i>Any three:</i> Minimum germination rate of 85%/ minimum analytical purity of 98%/ free from wild oat seed/ treated with systemic fungicide and contact insecticide	3(1)
(ii)	
Higher germination rate/ better establishment/ higher yield/ less weeds or pests or diseases	2
(iii)	
Consumer demand/ ROI potential/ Productivity/ Disease resistance/ Sowing and harvesting dates/ availability/ yield	2(2)
(b) (i)	
Winter variety seeds are frost resistant	1
(ii)	
Winter variety: Higher yield/ earlier harvest/ sow during autumn/ less workload in spring/ less damage to the soil during harvest <i>Corresponding points for spring varieties accepted</i>	2(3)
(c) (i)	
Annual plants go through their life cycle in one year e.g.peas Perennial plants grow for more than two years e.g. perennial ryegrass <i>Other correct examples are acceptable</i>	2(2+1)
(ii)	
<i>Any suitable four year crop rotation</i> e.g. Potatoes → Barley → Turnip → Maize	4(1)
(iii)	
<i>Any two:</i> Reduces weeds/ reduces nutrient depletion/ improves soil structure/ prevents a build up of pests/ prevents a build up of diseases	2(2)

Q2.

Total: 20 marks

(a)	
<i>Any two:</i> Soil fertility – different minerals needed for different purposes/ soil saturation – water needed but too much water causes saturation/ soil compaction – good soil-seed contact needed but too much compaction reduces infiltration rates/ sowing rate – affects competition between crops	2(3)
(b) (i)	
<i>Any two from direct control and any two from indirect control</i> Direct control: Fungicide + description/ pesticide + description/ herbicide + description Indirect control: Crop rotation + description/ growth encouragement + description/ resistant varieties + description/ early harvest + description/ stubble cleaning + description/ biological control + description	2(2) 2(2)
(ii)	

If detected or suspected notifiable diseases must be reported to DAFM	3
(iii)	
<i>Any suitable example e.g. Brown rot</i>	3

Q3.

Total: 20 marks

(a) (i)	
Farming with practices that benefit the environment	2
(ii)	
Most agro-chemicals are prohibited/ Higher standards of animal welfare/ promote biodiversity/ routine preventative treatment of healthy animals is not allowed	2
(iii)	
<i>Any two:</i> Minimises external costs/ higher prices for products/ environmentally sustainable	2(2)
(b)	
<i>Any two:</i> Care with machinery (or specific guidelines given)/ Chemicals stored correctly (or specific guidelines given)/ PPE when using chemicals (or specific guidelines given)/ Appropriate sun protection when working outdoors/ Correct equipment used when working at heights	2(3)
(c)	
<i>Any two:</i> Non-chemical controls can reduce the impact a farm has on the environment/ guidelines followed when using chemicals/ crop rotation to reduce nutrient depletion/ Avoid using machinery on waterlogged soil/ Use machinery with low carbon emissions	2(3)