**CROP PRODUCTION III**

**NURSERY MANAGEMENT PRACTICES**

1. three methods of grafting that are used in propagation of plants

* Whip are tongue grafting
* Side grafting
* Approach grafting
* Bark grafting

Notch grafting

2. two practices done during hardening-off of seedlings in a nursery bed.

* Gradual removal of shade

Gradual reduce of watering

3. two methods of budding used in crop propagation (1mk)

* T-budding
* Top budding
* Paten budding

4. four management practices carried out on a nursery bed (2mks)

* Watering
* Shading
* Pest an disease control
* Weed control
* Mulching
* Hardening off
* Pricking out (1/2x4=2mks)

5. Two importance of tissue culture in crop propagation

* Propagate pathogen free plants
* Appropriate soil depth
* Soil looseness
* Should be weed free

- Soil moisture content improved

6. - A nursery bed is a portion of land specially prepared to raise seedlings before transplanting while a seedling bed is a specially prepared portion of land for receiving pricked out seedlings from the nursery bed Mark as a whole (1 mk)

7. Four advantages of under sowing in pasture production

* Amino acids/protein synthesis
* Formulation of enzymes and hormones
* Increase oil content and hormones
* Needed for formation of chlorophyll
* Aid in nitrogen fixation in legumes

Needed in carbohydrate metabolism

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9. (a) The structure is a nursery

 (b) Reason for carrying out each of the following practices in the structure shown above is:-

* Pricking out – to avoid overcrowding /allow seedling to grow strong and healthy transfer seedlings from one nursery to another
* Hardening off – To prepare seedlings to ecological conditions in the main field/reduce transplanting shock

 (c) Three importance of the part labeled A in the above structure (1/2 x 3= 1 ½ mk)

* + To reduce the amount of water through vaporization
	+ To modify nursery temperature
	+ To reduce the impact of raindrops/hailstones hence minimizing damage on seedlings
	+ Reduce splash erosion
	+ Reduce the scorching effect in the seedlings
	+ Reduce the scorching effect in the seedlings

10. a) - Sitting crop nursery

* Good soil fertility
* Security against destruction
* Accessibility
* Should be near source of water
* Topography should discourage water logging (1x5=5 mks)

 b)- Establishment

* Prepare fine filth
* Add manure or fertilizers to the nursery
* Sterilize soil against soil borne pests/ diseases
* Shade the nursery bed
* Ensure nursery is 1m wide
* Plant seeds in drills and cover with light soil layer (1x5=5 mks)

b) Management practices

* Mulch to conserve moisture and suppress weeds
* Water regularly in the morning and afternoon
* Pricking – remove excess seedlings and transfer to another nursery or use polythene sleeves
* Weed control – done by hand uprooting
* Pest and disease control – use clean seeds and apply chemicals as recommended
* Hardening off – Done by removal of shade
* 1 week to transplanting to make seedlings survive after transplanting

11. State four importance of thinning seedlings in the nursery bed

* To control spread of pests and diseases
* To create space far other seedlings
* To avoid competition for light, nutrients
* Allow rapid growth of seedlings/vigorous(1/2x4=2mks)

12. Seedling bed is where overcrowded seedlings from the nursery bed are transferred while

 seedbed is the final land where planting materials are raised until they are ready for harvesting.

13. a) two advantages of having the part labeled J

* To reduce the amount of water loss through evapo- transpiration
* To modify the temperature
* To reduce the impact of the raindrops thereby minimize the damage of seedlings/ reduce splash
* Retaining water

b) Management practices carried out on the nursery from the time the seedlings emerge to stage of transplanting

* Proper watering
* Controlling weeds
* Hardening off
* Pricking out