

KABOURA JOINT EVALUATION

NAME..... ADMISSION NO.....

SIGNATURE.....DATE..... School.....

July/August 2024

AGRICULTURE

PAPER 1

2 HOURS

INSTRUCTIONS TO CANDIDATES

1. Write your name admission number and the name of your school in the spaces provided above
2. Sign and write the date of examination in the spaces provide above.
3. This paper consist of three sections A, B and C.
4. Answer **all** the questions in section A and B and any **two** questions in section C.
5. All answers should be written in the spaces provided.
6. All answers must be written in English.
7. This paper consist of 11 printed pages.
8. Candidates must check to ascertain that all the pages are printed as indicated and that no question is missing.

FOR EXAMINER'S USE ONLY

| SECTION | QUESTIONS | MAXIMUM SCORE | Candidate's score |
|--------------------|-----------|---------------|-------------------|
| A | 1-15 | 30 | |
| B | 16 -19 | 20 | |
| C | 20-22 | 40 | |
| Total score | | 90 | |



SECTION A (30 Marks)

Answer **all** the questions in this section in the spaces provided.

1. Name four practices in agriculture that make it an art (2 marks)

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2. State four reasons for applying phosphatic fertilizers during planting (2marks)

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3. Give two reasons for carrying out each of the following operations in land preparation:

(a). Rolling (1 mark)

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(b). Leveling. (1 mark)

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4. Give **four** reasons for treating water. (2marks)

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5. Name **four** entries that can be made in animal breeding records. (2marks)

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6. List **four** branches of livestock farming. (2marks)

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7. State **four** characteristics of a good site for a tomato nursery bed site. (2marks)

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8.State **four** natural factors that may encourage soil erosion. (2marks)

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9.(a) Define the term land reform (1mark)

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(b) State **four** benefits of a land registration certificate in farming. (2marks)

10. What is meant by each of the following in agroforestry. (3 marks)

(a) Pollarding

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(b) Coppicing

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(c) Lopping.

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11. State **four** disadvantages of using organic manure in crop production. (2 marks)

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12. State **four** reasons for top dressing Nappier grass. (2marks)

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13. State **four** features that should be considered when choosing water pipes for use on the farm. (2 marks)

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14. State **four** minimum tillage practices. (2 marks)

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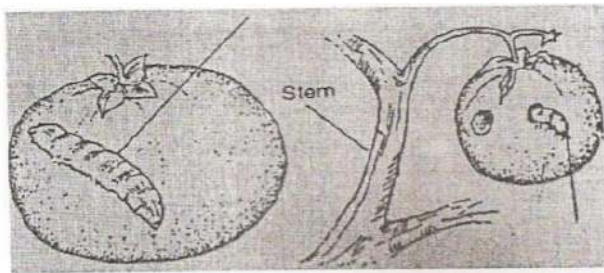
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15. State **four** roles of women based organisations in farming (2 marks)

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SECTION B (20 Marks)

Answer **all** the questions in this section in the spaces provided.

16. The diagram below illustrate a tomato fruit infested by a field pest



(a) Identify the pest. (1 mark)

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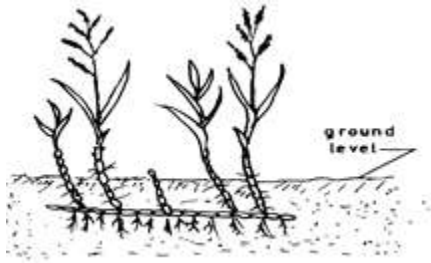
(b) State **three** ways in which the pest is economically important. (3 marks)

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(c) State **three** cultural ways of controlling the pest. (2 marks)

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17. Below is a diagram of a weed. Study the diagram carefully and answer the questions that follow.



a) Identify the weed illustrated above. (1 mark)

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b) Why is the weed illustrated above difficult to control? (1 mark)

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(c). State **two** cultural ways of controlling the weed (1 mark)

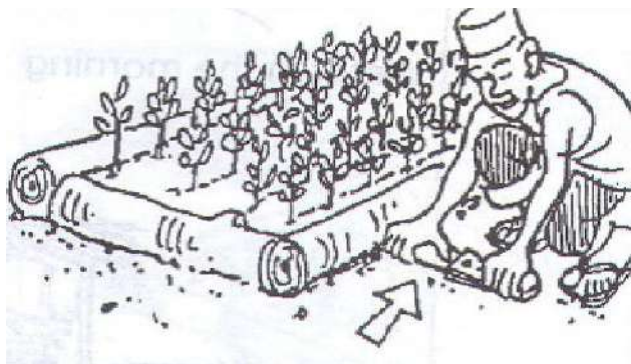
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18. The illustration below shows a tree seedling nursery management practice.



(a). Identify the practice (1 mark)

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(b). Give **two** reasons for the practice above (2marks)

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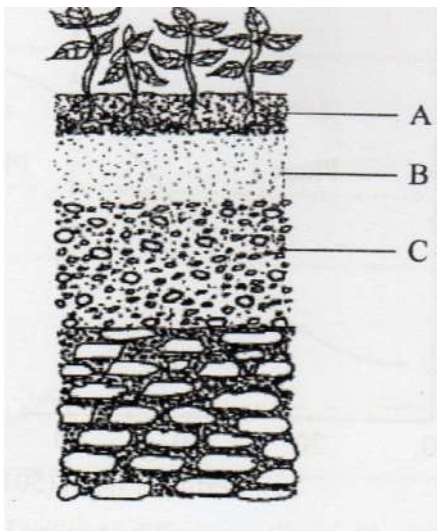
(c). Apart from the practice above, state other **three** practices carried out on seedlings in the nursery (3 marks)

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19. The diagram below illustrates a feature observed after digging the soil several meters deep. Study the diagram carefully and answer the questions that follow.



(a) Identify the feature that the diagram above represents in the study of soil. (1 mark)

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(b) Name the parts of the diagram labeled A and B . (2 marks)

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(c) State **two** ways in which the knowledge of the above feature would be of benefit to a farmer.
(2 marks)

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SECTION C (40 Marks)

Answer any **two** questions from this section in the spaces provided.

20.(a) Describe the production of maize under the following sub-headings

(i) seedbed preparation (3 marks)

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(ii) planting; (2 marks)

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(iii) harvesting. (2 marks)

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Marking scheme

| <u>No.</u> | <u>Answer</u> | <u>Marks</u> |
|------------|--|--------------|
| 1. | Name four practices in agriculture that make it an art (2 marks) | 1 |

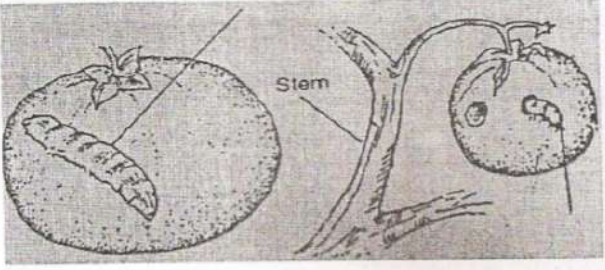
| | | |
|----|---|---|
| | <ul style="list-style-type: none"> ✓Tilling of land ✓Feeding and handling animals. ✓Measuring distances. ✓Machine operations. ✓Harvesting of crops. ✓Marketing of agricultural produce. ✓Constructing farm structures | |
| 2. | <p>State four reasons for applying phosphatic fertilizers during planting (2marks)</p> <ul style="list-style-type: none"> ✓Less soluble ✓Promote root development ✓Slight scotching effect ✓Long residual effect ✓Not easily leached | 2 |
| 3. | <p><u>Give two reasons for carrying out each of the following operations in land preparation:</u></p> <p>(a) <u>rolling</u> (1 mark)</p> <ul style="list-style-type: none"> ✓Increases seed soil contact ✓Compacts soil/seeds to protect it against agents of erosion <p>(b)<u>leveling</u> (1 mark)</p> <ul style="list-style-type: none"> ✓Ensures uniform depth of planting/uniform germination/uniform fertilizer application ✓Ensures uniform water level in paddy rice fields ✓To remove depressions which collect water leading to rotting of seeds. | 2 |
| 4. | <p><u>Agricultural practices that pollute water</u></p> <ul style="list-style-type: none"> ✓Use of inorganic fertilizers ✓Use of excess pesticides | 2 |

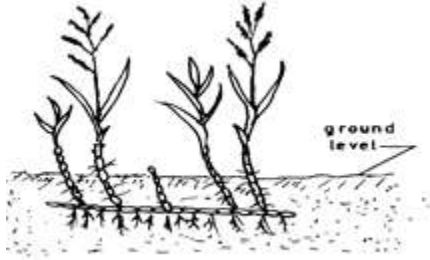
| | | |
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| | <ul style="list-style-type: none"> ✓Over cultivation ✓Over grazing ✓Cultivation along river banks. | |
| 5. | <p><u>Entries made on animal health records.</u></p> <ul style="list-style-type: none"> ✓Date first symptoms were noticed. ✓Symptoms noticed ✓Disease diagnosed/suspected ✓Drugs used to treat disease ✓Cost of treatment ✓Remarks ✓Animal affected ✓Date of treatment | 2 |
| 6. | <ul style="list-style-type: none"> ✓High production per unit area ✓Ideal for densely populated areas/small land holdings ✓Requires high initial capital/capital intensive ✓Is labour intensive ✓Requires high level of management/skilled labour | 2 |
| 7. | <p><u>characteristics of a good vegetable seedling.</u></p> <ul style="list-style-type: none"> ✓Free from disease/pest/healthy ✓Vigorous growing ✓Free from physical deformities ✓High yielding ✓Correct stage of growth/height 10 - 15cm tall/4 - 6 true leaves. | 2 |

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| 8. | <p><u>Methods of draining excess water from farm lands</u></p> <ul style="list-style-type: none"> ✓Cambered beds ✓Open ditches ✓French drains ✓Using trees with high water absorption ✓Pumping | 2 |
| 9. | <p><u>(a) What is meant by the term land tenure reform?</u></p> <ul style="list-style-type: none"> ✓It's any organized action designed to improve land use and ownership <p><u>(b). Importance of land registration certificate</u></p> <ul style="list-style-type: none"> ✓Used to secure credit facilities for land development ✓Land disputes are minimised ✓Encourage farmer to carry out long term investment on the land ✓Enables owner to lease the farm and thus get extra income ✓Provide security of ownership | 1 2 |
| 10. | <p><u>factors that influence mass wasting.</u></p> <ul style="list-style-type: none"> ✓Slope/topography of land ✓The nature of material ✓Climate ✓Vegetation cover ✓Human activities ✓Forces within the earth's crust | 2 |
| 11. | <p><u>State four disadvantages of using organic manure in crop production.</u></p> <ul style="list-style-type: none"> ✓Low nutritive value per unit volume/weight. ✓Likelihood of spread of disease,pests and weeds. ✓Bulky,difficult to store,transport and apply. | 2 |



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| | <ul style="list-style-type: none"> ✓Looses nutrients if poorly stored. ✓May burn crops if not fully decomposed | |
| 12. | <p><u>Factors that determine the quality content of hay</u></p> <ul style="list-style-type: none"> ✓Forage species used ✓Length of storage ✓Weather conditions during the drying period ✓Length of drying period ✓Stage of growth of forage used | 2 |
| 13. | <p><u>Features that should be considered when choosing water pipes for use on the farm.</u> (2 marks)</p> <ul style="list-style-type: none"> ✓Durability ✓Strength/ability to withstand pressure/thickness of the wall of the pipe ✓Diameter/size of the pipe ✓Workability ✓Colour | 2 |
| 14. | <p><u>Reasons for carrying out minimum tillage.</u></p> <ul style="list-style-type: none"> ✓Maintains soil structure ✓Conserves soil moisture ✓Reduces land preparation costs ✓Maintains soil cover/ reduces exposure to agents of soil erosion ✓Reduce disturbance of roots ✓Reduce exposure of humus | 2 |
| 15. | <p><u>Causes of land fragmentation.</u></p> <ul style="list-style-type: none"> ✓Population pressure on limited land area ✓Inheritance of land | 2 |

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|-----------------------------|--|----------------------------|
| | <ul style="list-style-type: none"> ✓Settlement and resettlement ✓Shifting cultivation ✓Accumulation of land holdings | |
| SECTION B (20 MARKS) | | |
| 16. | <p><u>The diagram below illustrate a tomato fruit infested by a field pest</u></p>  <p>(a) <u>Identify the pest.</u> (1 mark)</p> <ul style="list-style-type: none"> ✓American-bollworms <p>(b) <u>State two ways in which the pest is economically important.</u> (2 mark)</p> <ul style="list-style-type: none"> ✓Reduces the quality of produce by boring holes on fruits ✓Increase the cost of production by purchase of pesticide <p>(c) <u>State three cultural ways of controlling the pest.</u> (3 marks)</p> <ul style="list-style-type: none"> ✓Early planting ✓Field hygiene/Removal and destruction of affected crop residues ✓Plant Mexican marigold in the field ✓Destruction of alternate host ✓Close season ✓Crop rotation ✓Intercropping | <p>1</p> <p>1</p> <p>3</p> |
| 17. | Below is a diagram of a weed. Study the diagram carefully and answer the questions that follow. | |



a). Identify the weed illustrated above. (1/2mk)

✓Couch grass

b) Why is the weed illustrated above difficult to control? (1mk)

✓presence of underground stems/rhizomes which are difficult to control

(c). State four cultural Ways of controlling the weed.(2 marks)

i) Mulching

(ii) Cover cropping

(iii) Crop rotation

(iv) Timely planting

(v) Proper spacing;

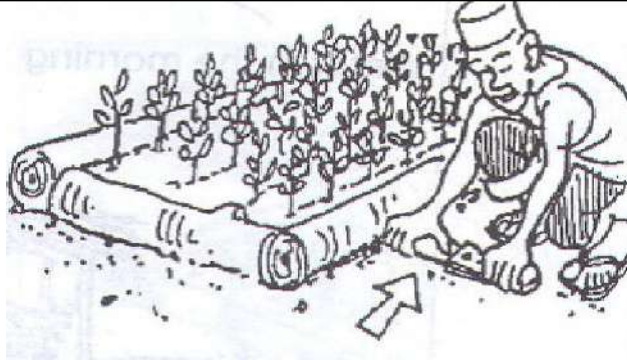
(v) Flooding

(vi) Clean seedbed

18. The illustration below shows a tree seedling nursery management practice.

2

2



(a). **Identify the practice** (1mark)

✓Root pruning/trimming

(b). **Give two reasons for the practice above** (2marks)

✓Encourages development of short, dense and strong rooting system for faster establishment after transplanting.

✓It facilitate/ease lifting of seedlings/minimize root damage during transplanting.

(c). **Apart from the practice above, state other four practices carried out on seedlings in the nursery** (3 marks)

✓Disease and pest control

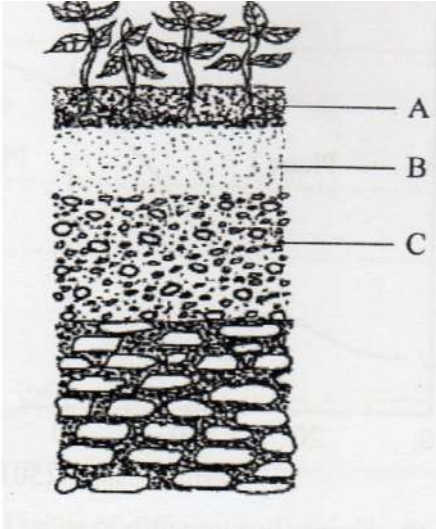
✓Shading

✓Foliar feeding

✓Watering

✓Hardening off

✓Pricking out

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|------------------------------|---|---------------------|
| 19. | <p>The diagram below illustrates a feature observed after digging the soil several meters deep. Study the diagram carefully and answer the questions that follow.</p>  <p>(a) Identify the feature that the diagram above represents in the study of soil. (1 mark)</p> <p>✓Soil profile</p> <p>(b) Name the parts of the diagram labeled A and B . (2 marks)</p> <p>A✓Top soil B✓Sub-soil</p> <p>(c) State two ways in which the knowledge of the above feature would be of benefit to a farmer. (2 marks)</p> <p>✓Helps the farmer to choose appropriate crop to grow ✓Helps to determine depth of ploughing ✓Helps the farmer to determine the kind of foundations for farm structures</p> | 1 3 2 |
| SECTION C (40 Marks) | | |
| 20 | <p>(a). (a)Describe the production of maize under the following sub-headings:</p> <p>(i) seedbed preparation (3 marks)</p> | 7 |

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|---|---|
| <ul style="list-style-type: none"> ✓Bush clearing. ✓Carry out primary cultivation. ✓Carrying out secondary cultivation. ✓Prepare land early during the dry season. ✓Deep ploughing to remove perenial weeds. ✓Harrow to medium tilth. (ii) planting; (2 marks) ✓Plant suitable varieties. ✓Plant early at onset of rain ✓Dry planting in dry areas ✓Plant at 2.5cm to 10cm depth; ✓Spacing at 20cm to 30cm by 75cm to 90cm; ✓Apply DAP at planting ✓Plant 25kg seed per hectare ✓Place one or two seeds per hole. ✓Plant by hand or machine planter ✓Use handful of organic manure per hole | 7 |
| <ul style="list-style-type: none"> (iii) harvesting. (2 marks) ✓Harvest after 3 - 9 months. ✓Harvest When the Whole plant dries/harvest according to market demand. ✓Harvest manually by hand or use combine harvesters. ✓Cut and stook the maize if harvesting is manual. ✓Remove the cobbed maize from the husks. (b). <u>physical methods of pest control</u>. ✓Use of lethal temperature to kill the pests | 6 |

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| | <ul style="list-style-type: none"> ✓Proper drying of produce to make it hard for pest to penetrate ✓Flooding drowns and kills pests ✓Suffocation to kill the pests in air tight containers ✓Physical killing ofthe pests /trapping and killing ✓Use of scarecrows /scaring away the pests ✓Use of physical barriers to prevent infestation by the pests ✓Use of electromagnetic radiation to kill the pests. <p>(c). <u>Reasons for practising crop rotation</u></p> <ul style="list-style-type: none"> ✓Maximizes utilisation of nutrients ✓Control soil borne pests and disease build up ✓Improvement of soil structure ✓Control soil erosion ✓Controls weeds that are specific to certain crops e.g. striga on cereals . ✓Improves soil fertility when legumes are included | |
| 21. | <p>(a). <u>Describe the environmental conditions that may lead to low crop yields</u></p> <ul style="list-style-type: none"> ✓Hailstorm damage ✓Poor soil fertility ✓Extreme light intensity ✓Poor weed control ✓Inappropriate temperature ✓Inadequate rainfall ✓Poor soil PH ✓Pest and disease attack ✓Extreme relative humidity <p>(b). <u>Ways in which HIV/AIDS limits agricultural production</u></p> | 9 |

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| | <ul style="list-style-type: none"> ✓Shortage of labour ✓Lack of motivation to invest in agriculture ✓Increased cost of living leading to low investment in agriculture/lack of resources for Agricultural production.; ✓Government and NGOs are spending a lot of time and resources controlling the disease instead of investment in agriculture. ✓Lack of market for agricultural produce. <p>(c). <u>Reasons why a nursery is important in crop production.</u></p> <ul style="list-style-type: none"> ✓Many seedlings can be produced in a small area ✓Facilitates timely routine management practices ✓Provides best conditions for growth of seedlings ✓Small seeds and delicate seedlings grow into healthy and vigorous seedlings to facilitate transplanting ✓Reduced growth period in the field ✓Excess seedlings can be sold for income ✓Facilitate selection of healthy and vigorous/true to type seedlings for transplanting. | 5 |
| | <ul style="list-style-type: none"> ✓Many seedlings can be produced in a small area ✓Facilitates timely routine management practices ✓Provides best conditions for growth of seedlings ✓Small seeds and delicate seedlings grow into healthy and vigorous seedlings to facilitate transplanting ✓Reduced growth period in the field ✓Excess seedlings can be sold for income ✓Facilitate selection of healthy and vigorous/true to type seedlings for transplanting. | 6 |
| 22. | <p>(a)(i). <u>how sugar cane is harvested.</u></p> <ul style="list-style-type: none"> (i)Harvest at the correct age; 13 – 22 months for plant crops and 12-18 months for ratoon crop (ii)Take sugar cane samples for testing to determine maturity (iii)Cut the mature cane at the base/near the ground (iv)Cut off the green tops (v)Strip off green leaves/using machete/burn before harvesting (vi)Deliver the cane to the factory within 48 hours/ immediately after cutting <p>(ii). <u>Precautions that should be observed during the harvesting of pyrethrum.</u></p> <ul style="list-style-type: none"> ✓Picking starts 3-4 months after planting to maintain quality. | 4 |
| | <ul style="list-style-type: none"> ✓Picking starts 3-4 months after planting to maintain quality. | 4 |

| | | |
|--|---|-------------------|
| | <p>✓Picked flowers are put in woven baskets to allow ventilation and avoid fermentation of flowers.</p> <p>✓Wet flowers should not be picked because they heat up and ferment</p> <p>✓Picked flowers should not be compacted to avoid heating up and fermenting.</p> <p>✓A suitable picking interval 14 - 21 days is maintained to avoid harvesting over blown flowers.</p> <p>✓Break the flower stalks to maintain quality.</p> <p>(b). <u>Describe eight importance of budgeting in agricultural production.</u> (8 marks)</p> <p>✓Acts as a record for future reference.</p> <p>✓Helps in deciding the viability of the enterprise</p> <p>✓Assist in securing credit.</p> <p>✓Helps to predict the profitability of the enterprise.</p> <p>✓Aids in detecting problems easily hence correction is done in good time.</p> <p>✓Aids in making management decisions especially when comparing between enterprises.</p> <p>✓Helps in making changes in the farm.</p> <p>✓Ensures periodic analysis of the farm business.</p> <p>✓Encourage the farmer to be efficient so as to meet the target.</p> <p>(c). <u>cultural methods of soil and water conservation</u></p> <p>✓Grass/ Filter strips:- reduce speed of flowing water/ filter soil</p> <p>✓Cover cropping;prevents surface flow/ reduces impact of rain drops/ prevents evaporation/ volatilization</p> <p>✓Contour farming;creates ridges of soil which hold up water/ reduce speed of run-off</p> <p>✓Mulching;reduces impact of rain drops/ prevents evaporation/ surface run-off</p> <p>✓Rotational grazing;allows grass to recover for soil and water conservation</p> <p>✓Crop rotation;maintains soil cover for protection against soil erosion/ improves soil structure thus increasing water infiltration</p> | <p>2</p> <p>3</p> |
|--|---|-------------------|

