



CHUMEY HIGHER SECONDARY SCHOOL
BUMTHANG DZONGKHAG
TRIAL EXAMINATION-2022



Class: X
Subject: AgFS

Full Mark: 80
Time: 2 hours

INDEX CODE:

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READ THE FOLLOWING DIRECTIONS CAREFULLY:

- The first 15 minutes of the examination are for reading the paper only. Students must **NOT** start writing during this time.
- This paper has two sections A and B
- **Section A** contains objective questions and all questions are compulsory.
- **Section B** contains extended response questions, wherein you have to answer **any three** out of five questions.
- The intended marks for the questions are given in bracket. [].

ANSWER ALL QUESTIONS

(Section A: 40 marks)

Question 1

[15]

a) **Directions:** For each question, there are four alternatives a, b, c and d. Choose the correct alternative and circle it with PEN. Do not circle more than ONE alternative. If there are more than one circled, NO score will be awarded.

- i. Menjoung Gyalkhab is the name coined to Bhutan as our country is rich in
- | | |
|---------------------|----------------------|
| A cultural heritage | C forest cover |
| B medicinal herbs | D natural resources. |
- ii. Asparagus is a perennial herbaceous plant whose shoots are used as a vegetable. The shoots are known as
- | | |
|-----------|-------------|
| A crowns. | C trillers. |
| B spears. | D spikes. |

- iii. The carrot production in school has declined due to the carrot fly. Which of the following control measures would you adopt to protect plants from carrot flies in the next coming year?
- I irrigate the soil before the plantation
 - II intercrop with garlic
 - III follow crop rotation
 - IV do mulching
- A I and II
 - B I and IV
 - C II and III
 - D III and IV
- iv. Hybrid cattle normally have a bigger udder which will produce more milk. It can cause inflammation of the udder if proper milking procedures are not followed. Such cattle will suffer from
- A Anthrax
 - B Mastitis
 - C Black quarter
 - D Foot and mouth
- v. Chillies can be used as an insecticide. The hotness of chilli is due to a chemical called
- A niacin.
 - B lycopene.
 - C capsaicin.
 - D riboflavin.
- vi. Thinning is very important aspect of removing fruits in the early stage of fruiting. It is done mainly to
- A avoid congestions.
 - B reduce the production.
 - C compromise the quantity.
 - D have large and quality fruits
- vii. The process of transferring the seedling from the nursery to the field bed is called
- A. harvesting
 - B. propagation
 - C. earthing up
 - D. transplantation
- viii. Kinga Wangmo was detected with the low blood, weight loss, post child pains and internal bleeding. You as an expert in Bhutanese medicinal herb. Which medicinal plant will you used to treat her problem?
- A. Ruta
 - B. Muna
 - C. Goned
 - D. Gurgum

- ix. The entire crop production and handling system must be considered when developing integrated post-harvest pests and diseases management strategies. Which of the following best describes the pre-harvest practices to prevent post-harvest diseases?
- A Follow seed stratification for prompt germination
 B Wash and clean produce to remove soil and debris
 C Remove any damaged, decayed, overmature and underripe produce
 D Practise proper planting density, fertilization, irrigation, weeding, pruning and thinning
- x. Modern farming is suitable in urban areas where there is inadequate arable land. Which of the following smart farming practices is feasible in cities?
- I hydroponics
 II vertical gardening
 III container gardening
 IV mechanized farming
- A I, II, and III
 B I, II and IV
 C II, III and IV
 D I, II, III and IV
- xi. Though chemical fertilizers increase crop production, their overuse has adverse effects on soil thereby bringing hazards to human health and environment as well. The table below shows the recommended fertilizer requirement for the apple trees.

Manure/Fertiliser	Amount	Application Type
FYM/Compost	20 – 25 kg/10 m ²	Basal dressing
N:P:K	40:90:90 kg/ha	Basal dressing
Urea	90g/10 m ²	Top and basal dressing
SSP	560g/10 m ²	Basal dose
MoP	70g/10 m ²	Basal dose

- Pema is cultivating tomatoes on 100 m² of land. What amount of MoP would you recommend her to apply in her garden?
- A 70 g
 B 350 g
 C 700 g
 D 1050 g
- xii. The major problem faced by farmers cultivating carrots is carrot fly. The larvae of the fly tunnel into the roots. The symptoms of carrot fly infestation are
- I. leaves turn red.
 II. dark lesions girdle the stem.
 III. wilting and later yellowing of leaves.
- A I, II and III B I and II only C I and III only D II and III only

- xiii. You are planning to start apple orchard in hilly terrain. What type of orchard layout would you prefer?
- A Square System
 - B Contour System
 - C Hexagonal System
 - D Rectangular System
- xiv. Drying off cows becomes a very important aspect and dairy farmers must practice a minimum of 60-70 days dry period. Farmer Sangay usually does not allow his Jersey cow a dry period and continues to milk even at the advanced stage of pregnancy. What consequences would he face after calving?
- I The growth of the calf is affected.
 - II Reduced milk production in the subsequent lactation.
 - III His Jersey is more likely to get infected with mastitis.
- A I and II
 - B I and III
 - C II and III
 - D I, II and III
- xv. An effective landscape design depends on the creativity of the designer. Different forms of elements must be considered by the designer. The surface quality of an object is its visible or tactile quality. The design element described above is
- A line.
 - B form.
 - C scale.
 - D texture.

a) Write TRUE or FALSE for the following statements. [5]

- i. Holstein Friesians are the highest milk producing dairy cows in the world. []
- ii. Raising the beds is very effective in controlling some common diseases of chillies. []
- iii. Rose can be propagated only by the sexual propagation method. []
- iv. Preharvest technology is very important for postharvest technology. []
- v. Warm colours which include blue, green and purple should be included in the landscape to create excitement. []

b) Fill in the blanks with appropriate word/s. [5]

- i. In order to reduce the risk of carrot fly, farmers are recommended to intercrop carrots with.....
- ii. The average gestation period of Jersey cows is days.
- iii. Onions tend to flower when grown in the.....
- iv. The management strategies adopted to maintain produce quality after harvesting through handling processes till consumption is termed as.....
- v. There are more than 600 plants with medicinal properties in Bhutan, of whichspecies are used in traditional medicine.

c) Match each item under column A with the most appropriate item in column B. [5]

Column A	Column B	Answers
i. Easy of separation or abscission.	a) Apple
ii. Sensitive to the toxic effect of aluminium.	b) Large cardamom
iii. Sciophyte.	c) Mango
iv. Ornamental houseplants.	d) Petunia
v. King of fruits	e) Onions
	f) Chilli	
	g) Begonia	

d) Short answer questions.

i. Mention any **TWO** principles of designing landscape. Explain briefly. [2]

Ans.....

ii. Now a days young girls take keen interest in floriculture. List down at-least **TWO** scopes of floriculture in Bhutan. [2]

Ans.....

iii. Why postharvest technology is very important aspect in the field of agriculture? Give **TWO** reasons. [2]

Ans.....

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iv. What is calf scours? List down at least **TWO** preventive measures of calf scours. [2]

Ans.....
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v. Mention the procedures of growing rose. [2]

Ans.....
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SECTION B (40 MARKS)
ANSWER ANY FOUR QUESTIONS

Question 2.

a) Cordyceps (*Yartsa Guenbub*) is used for the medicinal purposes. What are its medicinal values? [2]

Ans.....
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b) Carrot is an important root crop cultivated throughout the world for its fleshy edible roots. The shape and size of carrot roots are influenced by soil type, temperature and management practices.

i. What is the best soil for the cultivation of carrots? [1]

Ans.....
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ii. Mention at least **ONE** favourable climatic condition for carrot farming. [1]

Ans.....
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iii. What is the critical period of weed control for growing carrots? [1]

Ans.....
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iv. why do you advice to intercrop carrot with garlic? [1]

Ans
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c) Develop a **SWOT** analysis for a dairy proposal to be submitted to the gewog Livestock Extension Officer to apply for financial support from the Bhutan Development Bank Limited. Explain each component with **TWO points**. [4]

Ans.....
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Question 3.

a) The elements in the landscape are used to transform space and create a unique experience. Explain any **THREE** elements that must be incorporated in landscape design. [3]

Ans.....
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b) There are many purposes of fruits in our Bhutanese tradition and culture, usually few varieties of fruits are offered to the chief guest in the 'Thokay' (fruit bowl). Mention any **FOUR** fruits that are used in Thokay. [2]

Ans.....
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c) Asparagus is a delicious early summer vegetable which can be cultivated easily. How would you grow/propagate asparagus? [2]

Ans.....
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d) Use the list of materials given in the box below and answer the question that follows.

containers	manure	water	vegetable seeds	soil	nail
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Write down at least **SIX** steps to construct a container garden. [3]

Ans.....
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Question 4.

a) “Bhutan has lots of scope to become the future entrepreneurship in the field of cultivation and commercialization of medicine, aromatic plants and spices”. Justify the above statement with at least **FOUR** reasons. [4]

Ans.....
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b) Hydroponic and aquaponic are two examples of smart farming which can be establish in urban areas. Mention at-least three differences between hydroponic and aquaponic. [3]

Ans.....
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c) Why has the government introduced exotic breeds in Bhutan? Explain with **THREE** reasons. [3]

Ans.....
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Question 5.

a) Some of the farmers in our locality uses plastic mulches for chilli production whereas some use organic mulching like compost, grass chipping and artemisia. If you were to grow chilli, what material would you choose to mulch your garden? Support your answer with **TWO** reasons. [2]

Ans.....
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b) Design your cattle shed which include all the facilities such as water, drainage, light and isolation room. [2]

Ans:

c) If your cattle in the farm suffer from food and mouth disease. What control measures would you take to prevent it from spreading to other cattle? Mention at-least **TWO** control measures. [2]

Ans.....
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d) Arrange the following steps for growing carnation in a correct sequence. [3]

- I. Add manure to the soil.
- II. Prepare the soil of the garden.
- III. Cut off the carnation stems to the ground level.
- IV. Keep the soil moist while seedlings are growing.
- V. Thin the small plants to about 10-12 inches apart.
- VI. Sow the seed in 1/8-inch-deep soil that will drain well.

Ans.....
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Question 6.

a) Dairy farming is one of the common practice of farmers in Bhutan. Depending on the agro-ecological zones and topography of the region. Suggest any type of cattle breed that can be reared in Bumthang. Give at-least FOUR reasons for selecting type of cattle breed. [4]

Ans.....
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b) Study the picture given below and list down the elements of landscape design incorporated in the picture. [2]



Ans
1.
2.
3.
4.

c) Why packaging is the vital component in post-harvest management of fruits and vegetables? Give TWO reasons to support your answer. [2]

Ans.....
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d) Write down the full form of the following: [2]

- 1) FYM
Ans.....
- 2) MAPS
Ans.....