



SLIATE

SRI LANKA INSTITUTE OF ADVANCED TECHNOLOGICAL EDUCATION

(Established in the Ministry of Higher Education, vide in Act No. 29 of 1995)

Higher National Diploma in Technology (Agriculture)
Second Year, Second Semester Examination - 2015
AG 2212: Agricultural Product Quality Maintenance

Instructions for Candidates:

The question paper contains part I and Part II
Answer all the questions in Part I.
Answer only two questions in Part II.

No of questions : 05
No of pages : 04
Time: **1 & half hours**

Part 1

Structured Questions

1) i) Write four (04) quality parameters of vegetables. (2 marks)

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ii) List four (04) appearance quality factors of agricultural product. (4 marks)

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iii) Write five (05) factors that cause shifts in the demand curve of agricultural products.

(5 marks)

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iv) Name following ISO standard (4 marks)

ISO 14000.....

ISO 14004.....

ISO14020.....

ISO 14031.....

v) Write five (05) important sections of food act no. 26 of 1980 (05 marks)

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(Total 20 marks)

2) i) List main goals of food and feed regulatory system. (3 marks)

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ii) What is the main function of food advisory committee? (2 marks)

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iii) What are the different forms of food and feed inspection? (3 marks)

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iv) What are the main parameters used in food and feed inspection? Give examples.
(6 marks)

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v) What are the important steps in implementation of good agricultural practices in the field? (6 marks)

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(Total 20 marks)

Part II

Answer two (02) questions only.

Question 03.

- (i) List the main factors that involve in consumers responses to food. (5 marks)
- (ii) Explain the feed regulatory System in Sri Lanka. (9 marks)
- (iii) Describe the main activities of food advisory committee which involve in different areas of food industry. (16 marks)

Question 04.

- (i) What is the importance of incoming and final food inspection? (6 marks)
- (ii) Explain the procedure of incoming food inspection. (10 marks)
- (iii) Describe the good agricultural practices that help to reduce the degradation of soil. (14 marks)

Question 05.

- (i) What are the important considerations of certification of good manufacturing practices? (7marks)
- (ii) Explain the general procedure for getting laboratory accreditation in Sri Lanka. (14 marks)
- (iii) Describe the common practices of total quality management. (9 marks)

Marking guide

Agricultural product quality maintenance

01. (i) taste, nutritional properties, freshness, shelf life (½ ×4-2 marks)
- (ii) Size , shape, damages,, color, transparency (1×4- 4 marks)
- (iii) Society's income.
- The prices of other goods
 - Tastes
 - Expectations
 - Number of Buyers (1×5-5 marks)
- (iv) **ISO 14000**: regarding the environment pollution due to byproducts
- ISO 14004**: fundamentals, system and technological methods regarding environment management
 - ISO 14031**: evaluation of functions of the environment
 - ISO 14020**: environmental labeling ISO 9000 -Quality management (1×4-4 marks)
- (v) Prohibition on manufacture importation, sale and distribution of food
- Labelling, packaging, advertising
 - Licensing
 - Food Advisory Committee
 - Food Authority
 - Authorized Officer
 - Analysis

02. (i) Goal is to prevent distribution of adulterated or misbranded food
focus is on food safety
to ensure that consumers are not misled as to product composition or attributes
(3 marks)
- (ii) Advise the Minister in charge of the subject of health on food safety policy matters (2 marks)
- (iii) Incoming inspection
In-process inspection
Final inspection Food acts (1×3-3marks)
- (iv) Physical tests -Colour, Damages %, Smell, Texture
Chemical tests- crude protein, Crude Fat, Moisture Ash, Energy calculation
Free fatty acid
Microbiological tests Aerobic plate count, Anaerobic plate count, Coliform count, Staphylococcus aureus, Yeast and mould count
(1×3×2 -6 marks)
- (v) The implementation of such a management strategy requires
Knowing,
Understanding,
Planning,
Measuring,
Monitoring,
Record-keeping at each step of the production process. (1×6 -6 marks)

Essay Questions

Part 11

03. (i) Quality characteristics of the product , Price of product, previous information acquired, their past experience, and their attitudes and beliefs
(1×5-5 marks)

(ii) Animal Feed Act, No. 15 of 1986

An act to regulate, supervise and control the manufacture, sale and distribution of animal feed and to provide for matters connected therewith or incidental things

Enacted by the Parliament of the Democratic Socialist Republic

There is a Registrar of Animal Feed with licensing authority

No person can manufacture any animal feed for sale except under the authority of a license

Every person desirous of obtaining a license should make an application to the Registrar

There shall be an Animal Feed Advisory Committee

Minister make regulations after consultation with the Food Advisory Committee

(1×9 -9 marks)

(iii) Function: Advise the Minister in charge of the subject of health on food safety policy matters.

Food Advisory Technical Sub Committee -Deliberates on issues referred to it on a regular basis

Food Control Administration Unit - In charge of the general administration of regulatory

The Minister make regulations after consultation with the Food Advisory Committee any of the following matters,

Food Adulteration

Labelling, packaging, offering,

Exposing and advertising for sale

Size, dimensions fill and other specifications of packages

Sale or conditions of sale

Use of any substance as an ingredient to misled

Standards of composition, purity, quality or other property

Importation of food

Method of preparation, manufacture,

Preservation, packaging, storing and testing

(1×16 - 16 marks)

04. (i) Incoming inspection-determination of the quality of the raw materials
(3 marks)

After manufacture completed to make sure that goods are satisfactory for dispatch to, customer or another department for the next operation (3 marks)

- (ii) A buying specification is prepared with required quality

Suppliers are checked for their ability to provide this quality - (vendor appraisal)

If the results are satisfactory, then the supplier is placed on an approved list

Purchase orders are placed

Received goods are subjected to an inspection

Results used to give each supplier a numerical rating- (vendor rating)

The results at every stage are monitored and steps taken to improve

Discontinue unsatisfactory suppliers (point 1×10 -10 marks)

- (iii) Avoid run-off.
- Maintaining of soil organic content, by manure application
 - Use of crop rotation
 - Reduce soil compaction issues (by avoiding using heavy mechanical devices)
 - Maintain soil structure, by limiting heavy tillage practices
 - Manuring by growing pulse crops like cowpea, green gram, sun hemp etc.
 - Practice scheduled irrigation, with monitoring of plant needs, and avoid water losses by drainage
 - Prevent soil salinization by limiting water input to needs,
 - Recycling water whenever possible
 - Avoid crops with high water requirements in a low availability region
 - Avoid drainage and fertilizer run-off
 - Maintain permanent soil covering, in particular in rain to avoid nitrogen run-off
 - Manage carefully water table, by limiting heavy output of water
 - Restore or maintain wetlands
 - Provide good water points for livestock
 - Harvest water in situ by digging catch pits (1×10 -10 marks)

- 05 (i) Planning, and facilities maintenance of the industry
- Cleaning and sanitation
 - Transportation
 - Training
 - Production information
 - Waste management
 - Packing and storage sampling (1×7 -7 marks)
- (ii) Formal Application- Duly filled application and all the supporting documents should be submitted to SLAB
- Document and Record Review -Application and supporting documents review in order to verify

Pre-Assessment -Pre-assessment is conducted by Assessment team in order to verify whether documented procedures are in place

Initial Assessment- This is the final audit for the grant of accreditation
Process management

Submission of Corrective Actions- The client shall submit objective evidence for corrective actions taken in errors

Recommendation by Assessment Team -The assessment team will make a recommendation to Accreditation Committee regarding Grant of accreditation.

Grant of Accreditation -If the Accreditation Committee is satisfied with the recommendations of the assessment team, the applicant will be granted accreditation with the approval of the Governing Council.

(Point 1×7 -7 marks)

(Describe 1×7-7 marks)

(iii) Process management E.g.: Ice cream production process

Supplier quality management E.g.: Evaluate the quality of fresh milk suppliers

Customer involvement E.g.: Market survey on ice cream

Information and feedback

Various sources (consumer, sellers)

Committed leadership

Strategic planning

Cross-functional product design

Cross-functional training

Employee involvement Control on the use of pesticides, veterinary drugs, and fertilizers.
(1×9 -9 marks)