



**RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES**

**Bachelor of Science in Applied Sciences
Second Year – Semester II Examination – January/February 2023**

BOT 2202 – ECONOMIC BOTANY

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Marks						
Question 1 200	Question 2 100	Question 3 100	Question 4 100	Total 400	Average 100	Final %

Time: Two (02) hours

Answer the compulsory question and TWO (02) of the optional questions.

Compulsory Question: [Approximate time allocation is one (01) hour]

1. Answer **ALL** questions. **Underline the most suitable answer** using a pen.
(08 marks x 25 = 200 marks)
 - a) Saffron is the dried
 - i. stamens of *Crocus sativus*.
 - ii. stigmata of *Crocus sativus*.
 - iii. stamens of *Colchicum autumnale*.
 - iv. stigmata of *Colchicum autumnale*.
 - b) The study of the relationship between food and culture, the art of preparing and serving food, the cooking styles of particular regions and the science of good eating is referred to as
 - i. anthropology.
 - ii. ethnobotany.
 - iii. gastroenterology.
 - iv. gastronomy.
 - c) Leaching is traditionally done to
 - i. reduce moisture in the grains of *Eleusine coracana*.
 - ii. eliminate toxic substances from the seeds of *Vateria copallifera*.
 - iii. increase the shelf-life of *Solanum melongena*.
 - iv. remove the hairs of *Prunus armeniaca*.

- d) Minestrella di Gallicano is
- an expensive African small-fruit spice.
 - a rare essential oil used in perfumery.
 - a traditional soup/stew of many wild greens.
 - an outdated type of condiment in Italy.
- e) An ingredient of *Dashamularishta*, the Ayurvedic concoction, which is prepared with the roots of ten powerful medicinal plants.
- Oroxylum indicum*
 - Mimosa pudica*
 - Piper betle*
 - Entada pursaetha*
- f) A nut in botany is a simple dry fruit with one seed (rarely two) in which the ovary wall becomes very hard (stony or woody) at maturity and does not split open to release its seed. Which of the following agree with above explanation?
- coconut.
 - hazelnut.
 - peanut.
 - almond.
- g) What is the plant part of interest in the extraction of sandalwood oil from *Santalum album*?
- Pericarp
 - Heartwood
 - Sapwood
 - Bark
- h) A geometric mosaic of wood and/or veneer pieces used in both flooring and furniture for decorative effect is referred to as
- parquetry.
 - marquetry.
 - plywood.
 - densified-wood.
- j) Star-anise and Ketchup are
- a dessert fruit and a spice.
 - a spice and a perfume.
 - a masticatory and a perfume.
 - a spice and a condiment.
- k) May-Grünwald's solution/reagent is used to detect the
- lignin content of plant fibres in textile industry.
 - acid content of mature citrus fruits in confectionary.
 - total soluble solids in cordial manufacturing.
 - degree of milling/polishing in rice processing.
- l) A plant yielding latex.
- Murraya koenigii*
 - Pandanus amaryllifolius*
 - Castilla elastica*
 - Mentha spicata*
- m) *Terminalia chebula*, *Terminalia bellirica* and *Phyllanthus emblica* are collectively known in Ayurveda medicine as
- Simhaparni.
 - Chandana.
 - Thripala.
 - Ashwagandha.

- n) As the Supreme Court of the United States decided in 1893, "a plant or plant part generally eaten as part of the main courses of the meal is a vegetable, while a plant part which is generally eaten as an appetizer, as a dessert, or out of hand is a fruit." Accordingly, the edible berry of *Solanum lycopersicum* is
- a fruit.
 - a vegetable.
 - both a fruit and a vegetable.
 - neither a fruit nor a vegetable.
- o) One of the five ingredients of 'Pas-vagaya', a commonly used treatment for colds, coughs and fever in indigenous medicine of Sri Lanka.
- Piper longum*
 - Glycyrrhiza glabra*
 - Coscinium fenestratum*
 - Adhatoda vasica*
- p) The mature fruit type is a hesperidium in
- Morus alba*.
 - Spondias dulcis*.
 - Citrus maxima*.
 - Malus domestica*.
- q) What is incorrect regarding Gluten? It
- is a mixture of two proteins (gliadins and glutenins) present in some cereal grains.
 - can be found in the grains of rice and maize.
 - is responsible for the elastic texture of dough in bread production.
 - can trigger allergies in a small part of the human population.
- r) A central nervous system stimulant Ephedrine is extracted from a species of
- gymnosperm.
 - aquatic ferns.
 - peat moss.
 - leafy liverwort.
- s) Teff and Codo are two species of
- pulse crops.
 - minor millets.
 - fibre crops.
 - oil-seed crops.
- t) The units of measure for the linear mass density of fibres (in textile industry), den (denier) and dtex (deci-tex) are respectively
- g/9km and g/1km.
 - g/9km and g/10km.
 - g/1km and g/9km.
 - g/10km and g/9km.
- u) A source of medicinal and highly poisonous substances.
- Strychnos nux-vomica*
 - Tamarindus indica*
 - Terminalia chebula*
 - Oroxylum indicum*
- v) The cheapest smoking tobacco is made into Beedis by wrapping ground tobacco in
- the leaves of *Nicotiana tabacum* (Solanaceae).
 - a special paper made out the fibres of *Linum usitatissimum* (Linaceae).
 - the leaves of *Diospyros melanoxylon* (Ebenaceae).
 - in Papyrus, a paper manufactured using *Cyperus papyrus* (Cyperaceae).

- w) Some fruits will not ripen after harvest, even when they are mature, and emit little or no ethylene gas, while, some fruits will ripen after harvest and give off large amounts of ethylene gas. They are respectively known as
- climacteric fruits and a non-climacteric fruits.
 - non-climacteric fruits and a climacteric fruits.
 - temperate fruits and tropical fruits.*
 - tropical fruits and Mediterranean fruits.*
- x) Banana and cashew-apple are, respectively
- a climacteric fruit and a non-climacteric fruit.
 - a non-climacteric fruit and a climacteric fruit.
 - a temperate fruit and a Mediterranean fruit.
 - a Mediterranean fruit and a temperate fruit.
- y) Specific phytochemicals that are used to treat specific organs or chemical substances in biological specimens so that their identity may be more clearly visible (as in microscopic examinations) are known as
- dyes.
 - stains.
 - inks.
 - tannins.
- z) Lipstick palm, Palmyra palm, Mangrove palm and Fish-tail palm are respectively
- Caryota urens, Nypa fruticans, Borassus flabellifer and Cyrtostachys renda.*
 - Nypa fruticans, Borassus flabellifer, Cyrtostachys renda and Caryota urens.*
 - Borassus flabellifer, Cyrtostachys renda, Caryota urens and Nypa fruticans.*
 - Cyrtostachys renda, Borassus flabellifer, Nypa fruticans and Caryota urens.*

Optional Questions: [Approximate time allocation is **one (01) hour**]

Answer TWO (02) questions.

- Describe the non-timber importance of stems designating **fifteen (15)** plants, stating their botanical names and respective families. **(100 marks)**
- “Spices are of heterogeneous origin.” Explain the above statement, giving examples with botanical names and their families. **(100 marks)**
- “Legumes play a significant role in the lives of humans and their livestock.” Validate this statement with suitable examples, giving the common English name (if available) and the botanical name of the species in each case. **(100 marks)**

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