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

**B.Sc. in Applied Sciences
Second Year – Semester II Examination – September/October 2020**

BOT 2202 – ECONOMIC BOTANY

For official use Only							
Marks							
Question 1 200	Question 2 100	Question 3 100	Question 4 100	Total 400	Average 100	Final %	

Time: Two (02) hours

Answer ALL compulsory questions and ONE (01) of the optional questions.

Compulsory Questions: [Approximate time allocation is **one and half (1 ½) hours**]

1. Answer ALL questions. **Underline the most suitable answer using a pen.**
(25 x 08 = 200marks)
 - a) The scientific study of the relationships between people and plants is referred to as
 - i. anthropology.
 - ii. archeology.
 - iii. ethnobotany.
 - iv. economic botany.
 - b) Leaching is usually done to
 - i. reduce moisture in stored grains.
 - ii. eliminate toxins from some food substances.
 - iii. increase the shelf-life of wild berries.
 - iv. remove the hairs of apricots.
 - c) Minestrella is
 - i. an expensive African small-fruit spice.
 - ii. a rare essential oil used in perfumery.
 - iii. a traditional soup/stew of many wild greens.
 - iv. an outdated type of condiment in Italy.

- d) Grape sugar and cane sugar are respectively
- sucrose and glucose.
 - fructose and sucrose.
 - glucose and sucrose.
 - maltose and glucose.
- e) Not an ingredient of 'Dashamularishta', the Ayurvedic decoction which is prepared with the roots of ten medicinal plants.
- Oroxylum indicum*
 - Aegle marmelos*
 - Piper longum*
 - Gmelina arborea*
- f) Botanically, a nut is an indehiscent dry fruit and usually the edible part is its seed. Select the one which is incompatible with this explanation.
- Hazelnut
 - Chestnut
 - Acorn
 - Pistachio
- g) *Helianthus tuberosus* and *Helianthus annuus* are respectively
- a tuber crop and an oil crop.
 - a spice crop and a dessert fruit source.
 - an oil crop and a tuber crop.
 - a spice source and an ornamental plant.
- h) Geometric mosaic of wood pieces used for decorative effect is referred to as
- plywood.
 - parquetry.
 - densified-wood.
 - marquetry.
- j) Star-anise and Mayonnaise are
- a dessert fruit and a spice.
 - a spice and a perfume.
 - a masticatory and a perfume.
 - a spice and a condiment.
- k) Pineapple, figs and jackfruit are
- simple fruits.
 - aggregate fruits.
 - composite fruits.
 - schizocarpic fruits.
- l) 'Thripala' of Ayurveda medicine is the blend of
- Terminalia chebula*, *Terminalia bellirica* and *Vitex negundo*
 - Terminalia chebula*, *Terminalia bellirica* and *Phyllanthus emblica*
 - Terminalia chebula*, *Terminalia bellirica* and *Adhatoda vasica*
 - Terminalia chebula*, *Terminalia bellirica* and *Azadirachta indica*

- m) May-Grünwald's solution/reagent is used to detect the
- lignin content of plant fibres used in textile industry.
 - maturity of dessert fruits using their acid content.
 - total soluble solids in sugar production process.
 - the degree of milling/polishing of rice.
- n) What is incorrect regarding rice bran oil (or rice bran extract)? It is
- the oil extracted from the germ and inner husk of rice.
 - suitable for high-temperature cooking methods such as stir frying and deep frying.
 - used in Sake, Wang-tsui and beer production.
 - rich in vitamin E and gamma-oryzanol.
- o) *Triticum durum* is a
- hexaploid wheat species used in bread production.
 - tetraploid wheat species known as Polish-wheat.
 - tetraploid wheat species used in pasta production.
 - diploid wheat species known as Einkorn-wheat.
- p) Which of the following is not correct regarding Gluten? It
- is a mixture of two proteins (gliadins and glutenins) present in cereal grains.
 - can be found in the grains of rice, maize, oat and sorghum.
 - is responsible for the elastic texture of dough in bread production.
 - can trigger allergies (adverse autoimmune reactions) in a small part of the human population.
- q) The two most common live-fence species in Northern Sri Lanka are
- Commiphora caudata* (Burseraceae) and *Gliricidia sepium* (Fabaceae).
 - Thespesia populnea* (Malvaceae) and *Gliricidia sepium* (Fabaceae).
 - Borassus flabellifer* (Arecaceae) and *Azadirachta indica* (Meliaceae).
 - Commiphora caudata* (Burseraceae) and *Thespesia populnea* (Malvaceae).
- r) Teff and Codo are two
- pulse crops.
 - minor millets.
 - fibre crops.
 - oil-seed crops.
- s) Units of measure for the linear mass density of fibres, Denier (den) and Deci-tex (dtex) are respectively
- g/9km and g/1km.
 - g/9km and g/10km.
 - g/1km and g/9km.
 - g/10km and g/9km.
- t) Two major retting methods in fibre industry are
- air retting and sun retting.
 - air retting and dew retting.
 - water retting and sun retting.
 - water retting and dew retting.

- u) Beedi is made 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).
 - thalli of *Pyropia yezoensis* (Bangiaceae).
- v) A dessert fruit species, the main source of latex in chewing-gum production, an underutilized fruit species as well as a dry zone timber species in Sri Lanka and an alternative source for chewing-gum latex are respectively
- Manilkara chicle*, *M. hexandra*, *M. bidentata* and *M. zapota*.
 - Manilkara hexandra*, *M. bidentata*, *M. zapota* and *M. chicle*.
 - Manilkara bidentata*, *M. zapota*, *M. chicle* and *M. hexandra*.
 - Manilkara zapota*, *M. chicle*, *M. hexandra* and *M. bidentata*.
- w) Phytochemicals that are used to treat specific tissues or chemical substances in biological specimens so that their identity may be more clearly visible are known as
- dyes.
 - stains.
 - inks.
 - tannins.
- x) An underutilized native fibre yielding plant.
- Hibiscus cannabinus*
 - Sanseveria zeylanica*
 - Musa textilis*
 - Boehmeria nivea*
- y) Fish-tail palm, Mangrove palm, Palmyra palm and Lipstick 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*, *Caryota urens*, *Nypa fruticans* and *Borassus flabellifer*.
- z) Invasive alien species, source of biodiesel, exotic live-fence species and an expensive timber source of the Family Fabaceae respectively are
- Copaifera langsdorffii*, *Gliricidia sepium*, *Pericopsis mooniana* and *Mimosa pigra*.
 - Gliricidia sepium*, *Pericopsis mooniana*, *Mimosa pigra* and *Copaifera langsdorffii*.
 - Mimosa pigra*, *Copaifera langsdorffii*, *Gliricidia sepium* and *Pericopsis mooniana*.
 - Pericopsis mooniana*, *Mimosa pigra*, *Copaifera langsdorffii* and *Gliricidia sepium*.

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2. Describe briefly the following (**use only the space provided**):**(8 x 12 ½ = 100 marks)**

a) Bagasse and Molasses

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b) Saffron and Turmeric

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c) Nutmeg and Mace

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d) Asafoetida

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e) Fumitory and Masticatory

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f) Cane sugar and Palm sugar

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g) Tapa cloths

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h) Cotton and Kapok

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Optional Questions: [Approximate time allocation is **half (½) an hour**]

Answer ONE (01) question.

3. (a) Describe stating suitable examples, different plant parts that can be used as culinary vegetables. **(55 marks)**
- (b) Justify presenting evidence that use of vegetables is not confined to culinary purposes. **(45 marks)**
4. 'Minor cereals play a significant role in the lives of humans and livestock'. Validate this statement using appropriate examples. **(100 marks)**

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