

UNIVERSITY OF RUHUNA

**BACHELOR OF SCIENCE (SPECIAL DEGREE) LEVEL I (SEMESTER II)
EXAMINATION – November/December 2016**

SUBJECT: BOTANY

COURSE UNIT: BOT4072 Economic Botany & Entrepreneurship

Time: 2.0 hrs.

Answer for questions (01, 02 & 03) and one from (04 & 05)

(1)

(a) What do you understand by “crop wild relatives (CWR)”?

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.....
.....

(10 marks)

(b) Name four importance of CWR.

- (i)
- (ii)
- (iii)
- (iv)

(4X4 = 16 marks)

(c) What is the geneecological-based relationship of a crop with it's wild relative?

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(12 marks)

(d) How does the primary gene pool differ from the secondary gene pool?

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(12 marks)

(e) Name three importance of *in situ* conservation of crop wild relatives.

- (i)
- (ii)
- (iii)

(3X4 = 12 marks)

(f) State five threats to the maintenance of crop wild relatives in the field.

- (i)
- (ii)
- (iii)
- (iv)
- (v)

(5X2 = 10 marks)

(g) State four challenges you would face in *in situ* conservation of crop wild relatives.

- (i)
- (ii)
- (iii)
- (iv)

(3X4 = 12 marks)

(h) Name four scientific names of crops and their respective wild relatives found in Sri Lanka.

	Crop	Wild relative
(i)
(ii)
(iii)
(iv)

(2X2X4 = 16 marks)

(2)

A) Fill in the following blanks with adding suitable words.

Spices are available in several forms such as (01) (02).....and (03) (04)..... spice has the longest shelf life . The flavor of a spice is derived from its compounds that (05)or (06) when expose to air. Some flavour elements in spices are soluble in (07); many are soluble in (08) or (09)

Clove is one of the most valuable spices of the orient and holds a unique position in the international spice trade. It belongs into family (10)..... and its scientific name (11) Dried unopened, nail like (12)of clove is used as a spice. Chief constituent of the clove oil is (13) and this oil is used to make (14)

Volatile oils evaporate in contact with the air is called as (15)
Different methods are used for extracting these volatile oils from the plant materials. They are
(16)..... (17) and (18)
.....

Fatty oils are liquid at room temperature (25 °C) and typically contain (19)
..... and considered as (20)
..... They are extracted from (21)
....., (22)..... and (23).....of the plant
organs. Kekuna oil is extracted from the seeds of the (24)
..... and it is used for preparing (25)
..... and (26)..... oil is extracted from (27)
..... has properties of
(28)..... and (29)..... Therefore, it
has a great demand in the market and it can be safely used by
(30).....

(60 marks)

B) i) Briefly explain the chemical structure of resins.

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(10 marks)

ii) Explain how “resin” is differentiated from “amber”?

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(10 marks)

iii) List the significant factors which determine the economic importance of the amber.

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(20 marks)

(3)

a) Fill in the blanks of the following table;

Algae species	Economic importance/ Product
<i>Ulva sp</i>	
<i>Porphyra spp (dried)</i>	
<i>Caulerpa sp.</i>	
<i>Laminaria japonica</i>	
<i>Asparagopsis taxiformis</i>	

<i>Macrocystis, Laminaria/Ascophyllum/ Fucus,</i>	
<i>Gelidium, Gracilaria</i>	
<i>Eucheuma sp</i>	
<i>Enteromorpha sp</i>	
<i>Diatom</i>	

b) Explain briefly the use of Diatoms in forensic medicine.

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c) Name **three** effects of algal blooms in the economy.

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d) What are the factors to be considered before setting an algal farm?

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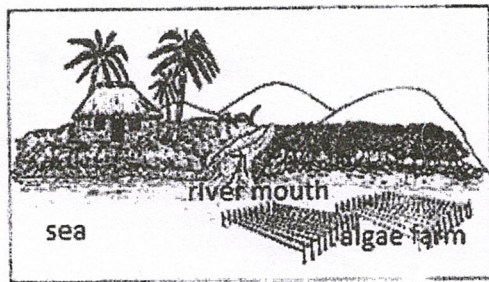
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e) Following picture shows the settlement of a algae farm. Do you agree with the settlement of an algae farm as shown in the following figure? Explain your answer.



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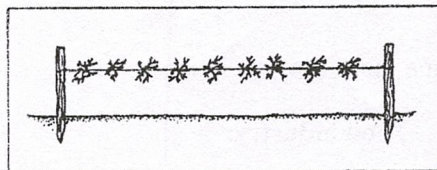
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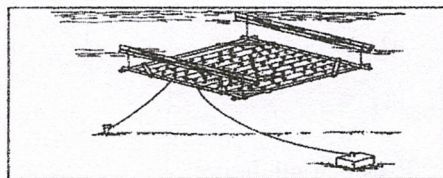
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f) Identified and write down the following three methods of algae growing.

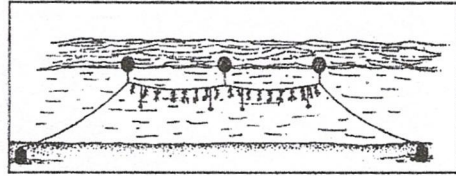
i)



ii)



iii).....



g) Mention **an** advantage and a disadvantage of each of above method.

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h) What are the economic uses of *Gyneros walla*?

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i) Give **two** phytochemicals found in heartwood of *Gyneros walla*.

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J) Name **three** uses of cinnamon in;

Food industry:

- (i)
- (ii)
- (iii)

Western medicine:

- (i)
- (ii)
- (iii)

k) Fill in the blank in the following table using relevant mangrove plant(s)/products;

Wood, timber or fire wood	
Food source	
Other products	

(4)

- a. Explain the terms "Price Elasticity of Demand" and "Income Elasticity of Demand" of a commodity.
- b. Discuss the change of demand of consumer for different commodities with the change of price and income, through the interpretation of "Elasticity".

(5)

- a. Discuss the main characteristics of successful entrepreneurs.
- c. Examine the specific areas need to be focused on increasing business and entrepreneurial potential.
