Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER I
SESSION 2019/2020

COURSE NAME	:	FUNCTIONAL FOODS AND NUTRACEUTICALS
COURSE CODE	:	BWD 30703
PROGRAMME CODE	:	BWD
EXAMINATION DATE	:	DECEMBER 2019 / JANUARY 2020
DURATION	:	3 HOURS
INSTRUCTIONS	:	ANSWER **ALL** QUESTIONS

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THIS QUESTION PAPER CONSISTS OF **THREE (3)** PAGES

Q1 (a) Define whole grain. Give **TWO (2)** examples of whole grain.

(6 marks)

(b) Ilustrate the components and/or structure of whole grain. Point out only the major bioactive compounds in each components and/or structure of whole grain.

(9 marks)

(c) Discuss the relationship between whole grain intake and human's health.

(10 marks)

Q2 (a) Explain and relate the effects of following bioactive compounds on human's health.

(i) Phytosterol

(ii) Omega-6 fatty acids

(10 marks)

(b) Compare and contrast between trans fat, saturated fat and polyunsaturated fat in term of their impact on health and also distribution in foods.

(9 marks)

(c) Describe the importance of fat replacer in food application.

(6 marks)

Q3 (a) Compare and contrast between prebiotic and probiotic.

(5 marks)

(b) By choosing **ONE (1)** type of Malaysian traditional food that contains probiotic, explain the type of microorganism present in the food and its potential health benefits.

(5 marks)

(c) Imagine you are working as a supplement product developer in a nutraceutical company. You are assigned to design a nutraceutical herbal product that can be used as anti-diabetic and anti-gout agent. Recommend medicinal plants that can be incorparated in your product and highlight major compounds that have the potential to show such effects.

(15 marks)

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Q4 (a) Compare and contrast the process and manufacturing aspect between green, black and oolong tea. Point out the major phytochemicals in each tea.

(15 marks)

(b) *Allium sativum* (lili family) produce edible aromatic bulb that is rich in organosulphur compounds.

(i) List **TWO (2)** classes of organosulphur compounds.

(2 marks)

(ii) Illustrate and differentiate the release mechanism between fat-soluble organosulphur compounds and water-soluble organosulphur compounds.

(8 marks)

- END OF QUESTIONS -

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