



**2<sup>ND</sup> SEM. 2014/15**

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**UNIVERSITY OF SWAZILAND  
FINAL EXAMINATION PAPER**

**PROGRAM : BACHELOR OF SCIENCE IN FOOD SCIENCE,  
NUTRITION AND TECHNOLOGY YEAR IV**

**COURSE CODE : FSNT 411**

**TITLE OF PAPER : FUNCTIONAL FOODS AND DIET  
SUPPLEMENTS**

**TIME ALLOWED : TWO (2) HOURS**

**INSTRUCTIONS : ANSWER QUESTION ONE (1) AND ANY OTHER  
TWO (2) QUESTIONS.**

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THE CHIEF INVIGILATOR**

**QUESTION 1 [COMPULSORY]**

- (a) A research group developed a food product and claimed that the food is functional and has some health benefits. As a professional, you are requested to look into the claim and advise the relevant authority to approve/disapprove the claim. Outline the points you will look into when tackling this task. (15 Marks)
- (b) Identify the main areas for technological challenge in processing functional foods and give two (2) examples for each. (15 Marks)
- (c) Identify the dietary sources of  $\beta$ -glucan and discuss the possible mechanism by which it renders the health benefits. (10 Marks)

**[TOTAL MARKS = 40]**

**QUESTION 2**

- (a) Discuss the relationship between functional foods and intestinal flora. (10 Marks)
- (b) With the help of a flow chart describe the preparation of symbiotic oat yoghurt. (10 Marks)
- (c) Identify bioactives from soy extracts and give two (2) examples of the health benefits from each. (10 Marks)

**[TOTAL MARKS = 30]**

**QUESTION 3**

- (a) State the health benefits of sterols as an ingredient in functional foods. (8 Marks)
- (b) Outline the criteria to be met by a bioactive to be called probiotics. (12 Marks)
- (c) What are the characteristics required of encapsulants in designing functional foods? (10 Marks)

**[TOTAL MARKS = 30]**

**QUESTION 4**

- (a) Identify deleterious effects of fibre on bread making and list ways to counteract the problem. (10 Marks)
- (b) Define functional gums and jellies and outline the points that need consideration in selecting functional ingredients for such products. (10 Marks)
- (c) Briefly describe physiological significance of dietary fibre. (10 Marks)

**[TOTAL MARKS = 30]**