



## **FACULTY OF SCIENCE**

### **Supplementary Exam Paper**

**MODULE: INDUSTRIAL BIOTECHNOLOGY**

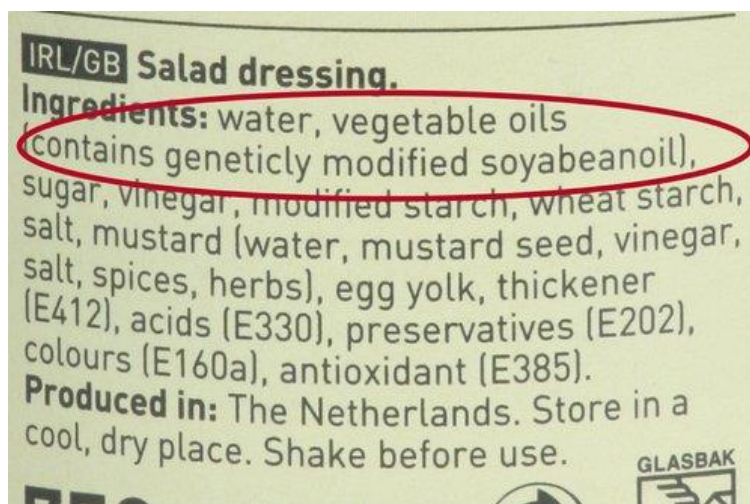
**CODE: BTN1Y14**

Compiler of Test: Kousar Banu Hoorzook

Moderator:

2015

1. Figure 1 shows a label for salad dressing, answer the following questions:
  - 1.1 What are the regulatory requirements that ensures the safety of genetically modified products? (12)
  - 1.2 Is the labelling correct?  
What is the purpose of labelling a product? (6)



2. Why has there been public awareness and concern for Biotechnology and state the main reasons associated with this? (5)
3. Name the foods in which enzyme production is the largest in industries (8)
4. Explain the isolation of soluble enzymes? (10)
5. What are the various modes of ion exchange chromatography used for enzyme purification? (4)
6. What are the advantages of yeast based expression systems (7)
7. What are the disadvantages of yeast based expression systems and its solution (2)
8. What are the advantages of microbial expression hosts - *Sacchromyces cerevisiae* (5)
9. What does beer contain? (6)
10. Explain the difference between ale and lager (11)
11. Name the agars required to detect wild yeast (7)
12. What nutrients should the liquid nutrient contain for Penicillin production? (1)
13. Why and how is the pH monitored and controlled for Penicillin production? (2)
14. Under what circumstances might individual bacterial strains be tested against a variety of antibiotics? (1)
15. Explain Penicillin extraction? (5)
16. What are the causes of antibiotic resistance? (8)
17. Provide the modern analytical instrument names used for Antibiotics? (4)
18. Name the spoilage bacteria in Beer? (11)
19. Explain the yeast appearance under the microscope for beer production? (6)

**Total: 120**  
**Time: 180**