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UNIVERSITI SAINS MALAYSIA

First Semester Examination  
Academic Session 2009/2010

November 2009

**IMK 202 – Food Commodities**  
***[Komoditi Makanan]***

Duration: 3 hours  
*[Masa: 3 jam]*

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Please check that this examination paper consists of SEVEN pages of printed material before you begin the examination.

*[Sila pastikan bahawa kertas peperiksaan ini mengandungi TUJUH muka surat yang bercetak sebelum anda memulakan peperiksaan ini.]*

**Instructions:** Answer **FIVE (5)** out of seven questions. You may answer the question either in Bahasa Malaysia or in English.

*[**Arahan:** Jawab **LIMA (5)** daripada tujuh soalan. Anda dibenarkan menjawab soalan sama ada [untuk KBI] dalam Bahasa Malaysia atau Bahasa Inggeris.]*

In the event of any discrepancies, the English version shall be used.

*[Sekiranya terdapat sebarang percanggahan pada soalan peperiksaan, versi Bahasa Inggeris hendaklah diguna pakai].*

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1. Answer all parts of this question.
  - (a) Sketch the detailed structure of egg and explain each part. (6 marks)
  - (b) Describe the various value added products that can be derived from tuna waste. (6 marks)
  - (c) Explain how maturity and degree of marbling is used to determine the quality of meat. (8 marks)
  
2. Answer all parts of this question.
  - (a) List the top five countries producers and consumers of coffee and tea. (3 marks)
  - (b) Explain the difference between arabica and robusta coffee variety. Briefly describe coffee civet and explain why it is expensive. (8 marks)
  - (c) Draw flowchart for processing step of black tea, green tea and oolong tea. (9 marks)
  
3. Answer all parts of this question.
  - (a) Explain various factors influencing the chemical composition of cow's milk. (6 marks)
  - (b) List five breeds of cattle, sheep and goat for meat production. Name five breeds of cattle for milk production. (8 marks)
  - (c) Explain the methods used to determine the quality of egg yolk. (6 marks)

4. Answer all parts of this question.
- (a) Explain the trend and factors associated with the beef, pork and poultry consumption in Europe, China, India and Malaysia. (10 marks)
  - (b) Sketch the shape of dark meat distribution in fish. Explain the difference between dark and white meat in chemical composition. (6 marks)
  - (c) Briefly explain the health benefits of tea consumption. (4 marks)
5. Answer all parts of this question.
- (a) Explain why the shelf life period of pork is shorter than beef. (5 marks)
  - (b) Explain why the texture of fish in general is softer than beef. (5 marks)
  - (c) Describe the composition and nutritional value of legumes. (5 marks)
  - (d) Briefly discuss the fermented products prepared from soy bean with suitable examples. (5 marks)
6. (a) Describe the effect of ethylene during fruit ripening. (6 marks)
- (b) Describe the enzymatic browning in fruits. (4 marks)
  - (c) List four (4) classes of vegetables. (2 marks)
  - (d) As a FAMA Director, suggest strategies that can increase the production of fruits and vegetables in Malaysia (8 marks)

7. (a) List the changes that occur during fermentation cocoa beans. (3 marks)
- (b) Discuss the steps in storing cocoa beans. (4 marks)
- (c) Sketch and describe three (3) of cereal grain's structure. (7 marks)
- (d) Briefly describe the formation of dough. (4 marks)
- (e) What is the difference between long and short- grain rices. (2 marks)

1. *Jawab semua bahagian soalan ini.*

(a) *Lakarkan secara terperinci struktur telur ayam, terangkan setiap bahagiannya.*

*(6 markah)*

(b) *Terangkan pelbagai produk bernilai tambah yang dapat dihasilkan dari sisa pemprosesan ikan tuna.*

*(6 markah)*

(c) *Terangkan bagaimana umur dan “marbling” digunakan untuk menentukan kualiti daging lembu.*

*(8 markah)*

2. *Jawab semua bahagian soalan ini.*

(a) *Senaraikan lima negara utama pengeluar dan pengguna kopi dan teh.*

*(3 markah)*

(b) *Jelaskan perbezaan di antara jenis kopi arabika dan robusta. Secara ringkas terangkan “kopi musang” dan kenapa ia berharga mahal.*

*(8 markah)*

(c) *Lukiskan carta alir tahapan pemprosesan teh hitam, teh hijau dan teh oolong.*

*(9 markah)*

3. *Jawab semua bahagian soalan ini.*

(a) *Terangkan pelbagai faktor yang mempengaruhi komposisi kimia susu.*

*(6 markah)*

(b) *Senaraikan lima baka lembu, bebiri dan kambing untuk penghasilan daging. Namakan lima baka lembu untuk penghasilan susu.*

*(8 markah)*

(c) *Jelaskan kaedah yang digunakan untuk menentukan kualiti kuning telur.*

*(6 markah)*

4. *Jawab semua bahagian soalan ini.*
- (a) *Jelaskan kecenderungan dan faktor yang mempengaruhi pengambilan daging lembu, khinzir dan ayam di Eropah, Cina, India dan Malaysia.*  
(10 markah)
  - (b) *Lakarkan bentuk penyebaran daging gelap pada ikan. Terangkan perbezaan komposisi kimia di antara daging gelap dan daging putih.*  
(6 markah)
  - (c) *Jelaskan kebaikan kesihatan daripada pengambilan teh.*  
(4 markah)
5. *Jawab semua bahagian soalan ini.*
- (a) *Jelaskan kenapa masa penyimpanan daging khinzir lebih singkat berbanding daging lembu.*  
(5 markah)
  - (b) *Jelaskan kenapa tekstur daging ikan secara amnya lebih lembut berbanding daging lembu.*  
(5 markah)
  - (c) *Huraikan komposisi dan nilai pemakanan kekacang.*  
(5 markah)
  - (d) *Dengan contoh, secara ringkas bincangkan produk fermentasi dari kacang soya.*  
(5 markah)
6. (a) *Huraikan kesan etilena semasa buah yang masak/ranum.*  
(6 markah)
- (b) *Huraikan keperangan enzim dalam buah.*  
(4 markah)
  - (c) *Senaraikan empat (4) kumpulan sayur-sayuran.*  
(2 markah)
  - (d) *Sebagai Pengarah FAMA, cadangkan strategi bagi meningkatkan pengeluaran buah-buahan dan sayur-sayuran di Malaysia.*  
(8 markah)

7. (a) *Senaraikan perubahan yang berlaku semasa fermentasi kacang soya.*  
(3 markah)
- (b) *Bincangkan langkah-langkah semasa penyimpanan kacang soya.*  
(4 markah)
- (c) *Lakar dan huraikan tiga (3) struktur bijirin.*  
(7 markah)
- (d) *Secara ringkas huraikan pembentukan doh.*  
(4 markah)
- (e) *Apakah perbezaan antara beras panjang dan beras pendek.*  
(2 markah)





