

SULIT



**BAHAGIAN PEPERIKSAAN DAN PENILAIAN
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI
KEMENTERIAN PENDIDIKAN MALAYSIA**

JABATAN TEKNOLOGI KIMIA DAN MAKANAN

**PEPERIKSAAN AKHIR
SESI DISEMBER 2018**

DMT3023: ANIMAL PRODUCTS TECHNOLOGY

**TARIKH : 23 APRIL 2019
MASA : 11.15 PAGI – 1.15 PETANG (2 JAM)**

Kertas ini mengandungi **SEPULUH (10)** halaman bercetak.

Struktur (5 soalan)

Dokumen sokongan yang disertakan : Tiada

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

SULIT

SECTION A: 100 MARKS
BAHAGIAN A: 100 MARKAH

INSTRUCTION:

This section consists of **FIVE (5)** structured questions. Answer **ALL** questions.

ARAHAN:

Bahagian ini mengandungi LIMA (5) soalan berstruktur. Jawab SEMUA soalan.

QUESTION 1
SOALAN 1

CLO1
C1

(a) State **TWO (2)** types of stunning method for cows.

Nyatakan DUA (2) jenis kaedah pemengsanan lembu.

[2 marks]
[2 markah]

CLO1
C2

(b) Rib and chuck are two commercial parts of beef. Determine which part is more tender and explain your answer.

Tulang rusuk dan bahu adalah dua bahagian komersial daging lembu. Tentukan bahagian manakah yang lebih lembut dan nyatakan alasan anda.

[5 marks]
[5 markah]

CLO1
C3

(c) Explain the meat quality based on the given statements.

Terangkan kualiti daging berdasarkan kenyataan yang diberi.

- i. Animal that was placed in an overcrowded lairage before slaughtering.
Haiwan yang ditempatkan di dalam sangkar yang sesak sebelum disembelih.
- ii. Meat with little amount of marbling.
Daging dengan sedikit jumlah kemarmaran.
- iii. Meat with high amount of myoglobin pigment.
Daging yang mempunyai jumlah pigmen mioglobin yang tinggi.

- iv. Animal that was well rested before being slaughtered.
Haiwan telah berehat secukupnya sebelum disembelih.

[8 marks]
[8 markah]

CLO1
C4

- (d) Temperature is one of the important factors to be controlled in the processing of meatballs. Discuss and relate how the temperature affects the juiciness and tenderness of the meatball produced.

Suhu adalah salah satu faktor penting yang perlu dikawal di dalam pemprosesan bebola daging. Bincang dan kaitkan bagaimana suhu boleh mempengaruhi kejusan dan kelembutan bebola daging yang dihasilkan.

[5 marks]
[5 markah]

QUESTION 2
SOALAN 2

CLO1
C1

- (a) Define the following terms:

Takrifkan istilah berikut:

- i. Marbling

Kemamaran

- ii. Juiciness

Kejusan

[2 marks]
[2 markah]

CLO1
C2

- (b) Identify the function of these ingredients in the processing of meat product.

Kenalpasti fungsi bahan-bahan berikut dalam pemprosesan produk berasaskan daging.

- i. Sodium tripolyphosphate in chicken meatballs.

Sodium tripolifosfat dalam bebola ayam

- ii. Fat in beef patties

Lemak dalam penghasilan daging burger

[4 marks]
[4 markah]

CLO1
C3

- (c) Based on Table 1, answer the questions that follow.

Berdasarkan Jadual 1, jawab soalan yang berikutnya.

Table 1: Beef burger formulation
Jadual 1 :Formulasi burger daging

| Ingredients | Formulation 1 (g) | Formulation 2 (g) |
|-------------|-------------------|-------------------|
| Meat | 500 | 500 |
| Fat | 80 | 0 |
| TVP | 70 | 50 |
| Premix | 42.9 | 42.9 |

- i. Convert the ingredients of formulation 1 from gram (g) to percentage (%).
Tukarkan bahan bahan bagi formulasi 1 daripada gram (g) kepada peratus (%) (state as 1 decimal place).

[4 marks]
[4 markah]

- ii. Compare beef patties produced from formulation 1 and formulation 2 in terms of juiciness and texture. Identify the best formulation by providing a suitable reason.

Bandingkan kepingan daging yang dihasilkan oleh formulasi 1 dan 2. Tentukan formulasi yang terbaik bersama alasan anda.

[5 marks]
[5 markah]

CLO1
C4

(d) Based on the flowchart in Figure 1, answer the question given.

Berdasarkan carta alir, jawab soalan yang diberikan.

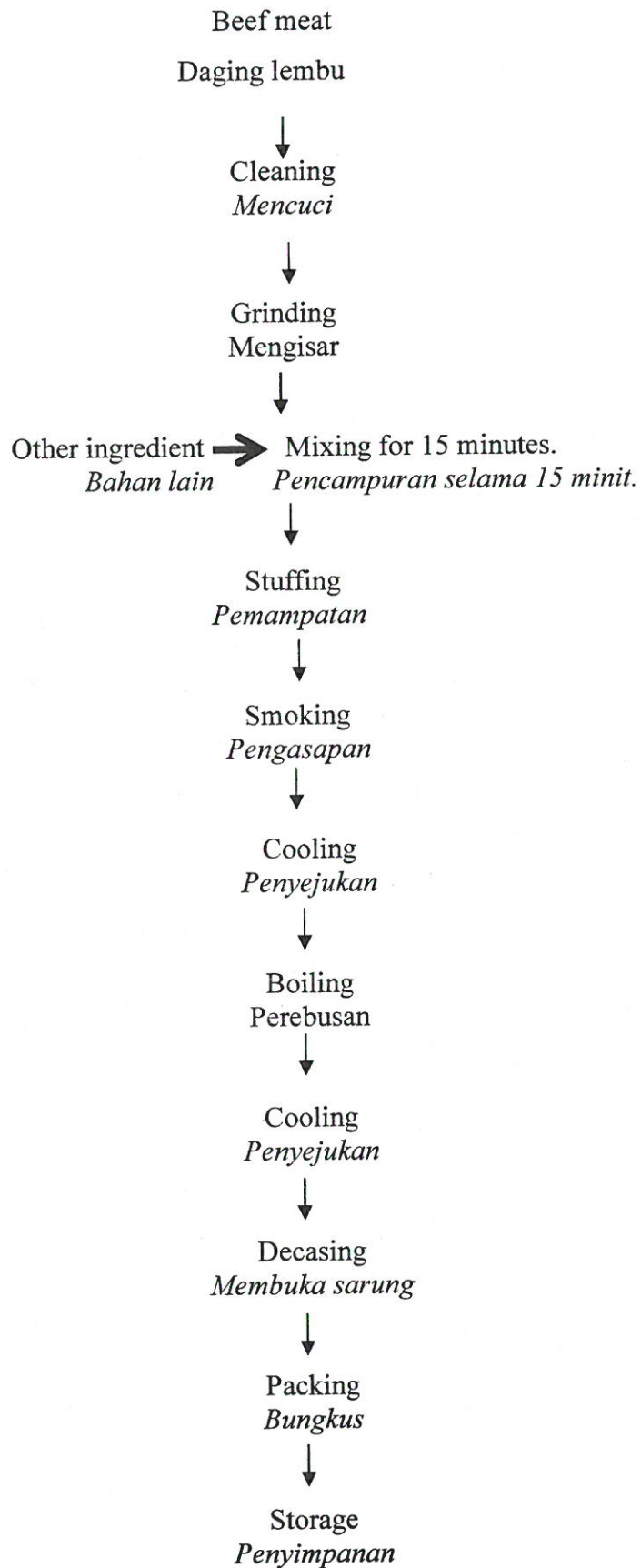


Figure 1: flow chart for production of beef sausage.
Rajah 1: carta alir bagi pengeluaran sosej daging.

Figure 1 shows the production steps for beef sausage. Identify the inappropriate step that was taken in the flowchart. Explain what happened to sausages that were produced.

Rajah 1 menunjukkan langkah-langkah pengeluaran sosej daging. Kenal pasti kesilapan langkah yang berlaku didalam carta alir. Terangkan apa yang akan berlaku kepada sosej yang dihasilkan.

[5 marks]
 [5 markah]

QUESTION 3
SOALAN 3

CLO1
 C1

- (a) Name **TWO (2)** examples of emulsifier and **TWO (2)** examples of stabilizer that can be used in laboratory for ice cream processing.

Namakan DUA(2) contoh pengemulsi dan DUA(2) contoh penstabil yang boleh digunakan di dalam makmal untuk memproses ais krim.

[4 marks]
 [4 markah]

- (b) Explain the differences between hard ice and soft ice cream in terms of fat content, % of overrun and differences in the processing step.

Jelaskan perbezaan diantara 'hard ice cream' dan 'soft ice cream' dari segi kandungan lemak, % overrun dan perbezaan dari segi pemprosesan.

[6 mark]
 [6 markah]

CLO1
C3

(c) Suggest and explain briefly **ONE (1)** method to prevent the following situation from occurring:

*Cadangkan dan terangkan **SATU (1)** kaedah yang dapat menghalang perkara berikut daripada berlaku:*

- i) Sandiness texture in sweetened condensed milk.
Tekstur berpasir dalam susu pekat manis.
- ii) Milk curd separated into two layers.
Dadih membentuk dua lapisan.
- iii) Weak gel texture of yogurt.
Tekstur gel yogurt lemah
- iv) Ice-cream melted quickly into watery liquid.
Ais krim cair dengan cepat menjadi cecair.
- v) Damaged nutritional content in evaporated milk was destroyed.
Kandungan nutrisi dalam susu sejat rosak.

[10 marks]
[10 markah]

QUESTION 4
SOALAN 4

CLO1
C1

(a) State **FOUR (4)** methods for preservation of fish.
*Nyatakan **EMPAT (4)** kaedah bagi pengawetan ikan.*

[4 marks]
[4 markah]

CLO1
C2

(b) Describe the purpose of the following actions:

Terangkan tujuan pernyataan berikut:

- i. Fish was wrapped before frozen storage.
Ikan dibalut sebelum penyimpanan sejukbeku.

- ii. Shrimp was blanched in 5% brine before frozen stage.

Udang dicelur dalam 5% larutan garam sebelum disejuk beku.

- iii. Fish was frozen using rapid freezing method.

Ikan dibekukan menggunakan kaedah pembekuan cepat.

[6 marks]

[6 markah]

CLO1
C3

- (c) Salma is planning to buy some fish to make fishballs for dinner.

Salmah bercadang membeli ikan untuk dibuat bebola ikan bagi makan malam.

- i. Suggest the types of fish that are suitable for Salma to make the fishballs and explain your answer.

Cadangkan jenis ikan apakah yang sesuai dibeli oleh Salma untuk membuat bebola ikan dan jelaskan jawapan anda.

[4 marks]

[4 markah]

CLO1
C3

- ii. In making the fishball, after preparing the surimi was prepared using the fish that she bought. After that, it was mix with other ingredients. Then, the paste was formed into balls and heat set at 40°C for 20 to 30 minutes. Finally, the fishball was cooled, packed and frozen.

Identify the missing steps in the process. Support your answer with suitable reasons and predict the quality of the end product produced.

Dalam pembikinan bebola ikan, selepas menyediakan surimi menggunakan ikan yang telah dibeli, Salma mencampurkannya dengan bahan-bahan lain. Kemudian, dia membentukkannya menjadi bebola dan memanaskan bebola ikan pada 40°C selama 20 hingga 30 minit. Akhirnya bebola ikan tersebut disejukkan menggunakan air sejuk, dibungkus dan dibekukan..

Kenalpasti langkah yang terlangkau dalam proses tersebut. Sokong jawapan anda dengan sebab-sebab yang sesuai dan meramalkan kualiti produk akhir yang dihasilkan.

[6 marks]

[6 markah]

QUESTION 5
SOALAN 5CLO1
C1

- (a) State **TWO (2)** characteristics of abnormalities in an egg.
Nyatakan DUA (2) ciri-ciri kecacatan dalam telur.

[2 marks]
[2 markah]CLO1
C2

- (b) Describe what will happen when the following commodities were kept for a long time in terms of its external or internal quality.
Terangkan apa yang akan berlaku apabila produk berikut disimpan terlalu lama dari segi kualiti luaran atau kualiti dalaman produk tersebut.

- i. Fish.
Ikan.
- ii. Egg.
Telur.

[4 marks]
[4 markah]CLO1
C3

- (c) The fish crackers produced by Best Food Enterprise did not expand and were less crispy after frying. As a Food Research and Development officer, you need to solve the problem. Identify the causes and suggest ways that can be taken to overcome the problem.
Tekstur keropok ikan yang dihasilkan oleh Best Food Enterprise tidak kembang dan kurang rangup selepas digoreng. Sebagai Pegawai Penyelidik dan Pembangunan Makanan, anda perlu menyelesaikan masalah tersebut.
Kenalpasti punca-punca serta cadangkan cara-cara yang boleh mengatasi masalah tersebut.

[6 marks]
[6 markah]

- (d) In order to produce cake with soft and fluffy texture, the eggs used must be of high quality. Describe the quality of eggs that should be used and explain your answers.

Bagi menghasilkan tekstur kek yang lembut dan gebu, telur yang digunakan mestilah berkualiti tinggi. Jelaskan kualiti telur yang perlu digunakan dan terangkan jawapan anda.

[8 marks]
[8 markah]

SOALAN TAMAT

