

INSTRUCTION:

This section consists of **FOUR (4)** structured questions. Answer **ALL** questions.

ARAHAN:

*Bahagian ini mengandungi **EMPAT (4)** soalan struktur. Jawab **SEMUA** soalan.*

QUESTION 1**SOALAN 1**

CLO1
C1

- (a) List **FIVE (5)** main operation units in Chiyoda Acetica process.

*Senaraikan **LIMA (5)** unit operasi utama di dalam proses 'Chiyoda Acetica'.*

[5 marks]

[5 markah]

CLO1
C2

- (b) Explain **FIVE (5)** advantages of Chiyoda Acetica process compared to the conventional process.

*Nyatakan **LIMA (5)** kelebihan proses 'Chiyoda Acetica' berbanding dengan proses konvensional.*

[5 marks]

[5 markah]

CLO1
C3

- (c) Draw the process flow diagram of CDTECH EB in the production of ethylbenzene.

Lukiskan rajah alir proses CDTECH EB di dalam penghasilan etilbenzena.

[15 marks]

[15 markah]

QUESTION 2**SOALAN 2**

CLO2
C1

- (a) List **FIVE (5)** operation units in Lurgi MegaMethanol process.

*Senaraikan **LIMA (5)** unit operasi utama di dalam proses 'Lurgi MegaMethanol'.*

[5 marks]

[5 markah]

- CLO2
C2 (b) Explain the function of reactor and regenerator in UOP/Hydro MTO process.
Terangkan fungsi reaktor dan 'regenerator' di dalam proses 'UOP/Hydro MTO'.
[5 marks]
[5 markah]
- CLO2
C3 (c) In Lurgi MegaMethanol process, the methanol distillation section is used to purify the crude methanol. Draw the methanol distillation section in complete.
Di dalam proses 'Lurgi MegaMethanol', Seksyen penyulingan methanol digunakan untuk menuliskan methanol mentah. Lukiskan seksyen penyulingan methanol dengan lengkap.
[15 marks]
[15 markah]

QUESTION 3**SOALAN 3**

- CLO1
C2 (a) Explain the function of furnace, reactor and stabilizer that are used in Pxmax reaction section.
Terangkan fungsi relau, reaktor dan 'stabilizer' yang digunakan di dalam seksyen tindak balas PxMax.
[10 marks]
[10 markah]
- CLO1
C3 (b) Draw the Classic Styrene reactor system and SMART Styrene reactor system.
Lukiskan sistem reaktor Stirena 'Classic' dan sistem reaktor Stirena SMART.
[10 marks]
[10 markah]
- CLO1
C4 (c) Differentiate **TWO (2)** characteristics between 'Classic' Styrene reactor system and SMART Styrene reactor system.
*Bezakan **DUA (2)** ciri sistem reaktor Stirena 'Classic' dan sistem reaktor Stirena SMART.*
[5 marks]
[5 markah]

QUESTION 4**SOALAN 4**CLO2
C3

- (a) Draw the process flow diagram of UNIPOL Polypropylene technology.

Lukiskan rajah alir proses teknologi 'UNIPOL Polypropylene'.

[15 marks]

[15 markah]

CLO2
C4

- (b) Determine the function of resin degassing and pelleting unit in UNIPOL Polypropylene Technology.

Tentukan fungsi unit 'resin degassing' dan 'pelleting' di dalam teknologi 'UNIPOL Polypropylene'.

[5 marks]

[5 markah]

CLO2
C5

- (c) Decide **TWO (2)** Spherilene process key characteristics that support the plant is operated safely.

*Tentukan **DUA (2)** ciri utama proses Spherilene yang menyokong loji beroperasi dengan selamat.*

[5 marks]

[5 markah]

SOALAN TAMAT