

INSTRUCTION:

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

ARAHAN:

*Bahagian ini mengandungi **EMPAT (4)** soalan berstruktur. Jawab semua soalan.*

QUESTION 1**SOALAN 1**

- | | |
|------|--|
| CLO1 | <p>(a) List FIVE (5) main operation units in CDTECH EB process.</p> <p><i>Senaraikan LIMA (5) unit operasi utama dalam proses CDTECH EB.</i></p> <p style="text-align: right;">[5 marks]
[5 markah]</p> |
| CLO1 | <p>(b) Explain the function of EB column and PEB column in EBone process.</p> <p><i>Terangkan fungsi 'EB column', dan 'PEB column' dalam proses EBone.</i></p> <p style="text-align: right;">[5 marks]
[5 markah]</p> |
| CLO1 | <p>(c) i. Lummus/UOP EBOne Technology is the technology to produce ethylbenzene. Write the process in EBOne Technology</p> <p><i>Teknologi Lummus/UOP EBOne merupakan teknologi untuk menghasilkan etilbenzena. Tuliskan proses bagi Teknologi EBOne.</i></p> <p style="text-align: right;">[10 marks]
[10 markah]</p> <p>ii. Carry out the similarities between EBOne and CDTech Technology in producing ethylbenzene.</p> <p><i>Berikan persamaan antara Teknologi EBOne dan CDTech dalam menghasilkan etilbenzena.</i></p> <p style="text-align: right;">[5 marks]
[5 markah]</p> |

QUESTION 2**SOALAN 2**

- CLO2 (a) List **FIVE (5)** reaction units in UOP/Hydro MTO process.
*Senaraikan **LIMA (5)** unit tindak balas dalam proses UOP/Hydro MTO.*
- [5 marks]
[5 markah]
- CLO2 (b) Explain the saturation process and desulfurization process in Lurgi MegaMethanol process technology.
Terangkan proses 'saturation' dan proses penyahsulfuran dalam teknologi proses Lurgi MegaMethanol.
- [5 marks]
[5 markah]
- CLO2 (c) Draw the process flow diagram of methanol synthesis in Lurgi MegaMethanol process technology.
Lukiskan rajah alir proses sintesis methanol dalam teknologi proses Lurgi MegaMethanol.
- [15 marks]
[15 markah]

QUESTION 3**SOALAN 3**

- CLO1 (a) Explain the functions of classic styrene reactor and SMART styrene reactor systems in dehydrogenation unit of Lummus/UOP styrene process technology.
Terangkan fungsi sistem reaktor stirena klasik dan reaktor stirena 'SMART' dalam unit penyahhidrogenan untuk teknologi proses stirena Lummus/UOP.
- [10 marks]
[10 markah]

- CLO1 (b) Provide the chemical equation of styrene in classic and SMART styrene process technology.

Berikan persamaan kimia stirena di dalam teknologi proses stirena klasik dan SMART.

[10 marks]

[10 markah]

- CLO1 (c) Determine the functions of furnace and stabilizer in PxMax reaction section.

Terangkan fungsi relau dan 'stabilizer' dalam seksyen tindak balas PxMax.

[5 marks]

[5 markah]

QUESTION 4

SOALAN 4

- CLO2 (a) Draw the process flow diagram of Basell Spherilene process technology.

Lukiskan rajah alir proses teknologi proses Basell Spherilene.

[15 marks]

[15 markah]

- CLO2 (b) Determine the functions of catalyst activation and feeding, and finishing column in Basell Spherilene polyethylene process technology.

Tentukan fungsi 'catalyst activation and feeding' dan 'finishing column' dalam teknologi proses polietilena Basell Spherilene.

[5 marks]

[5 markah]

- CLO2 (c) Decide the functions of resin degassing and vent recovery in UNIPOL polypropylene process technology.

Tentukan fungsi 'resin degassing' dan 'vent recovery' dalam teknologi proses polipropilena UNIPOL.

[5 marks]

[5 markah]

SOALAN TAMAT