	Utech
Name:	
Roll No.:	As Phonoger (19 Executive Trail Execution)
Invigilator's Signature :	

CS/B.Tech(CHE-OLD)/SEM-6/CHE-605(E)/2013 2013

PETROCHEMICAL TECHNOLOGY

Time Allotted: 3 Hours Full Marks: 70

The figures in the margin indicate full marks.

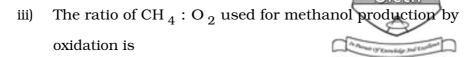
Candidates are required to give their answers in their own words as far as practicable.

GROUP - A

(Multiple Choice Type Questions)

- 1. Choose the correct alternatives for the following : $10 \times 1 = 10$
 - i) Low pressure Ziegler process for the manufacture of polyethene uses a catalyst which is
 - a) Ni
 - b) Fe
 - c) V₂O₅
 - d) Al (C $_2$ H $_5$) $_3$ and TiCl $_4$.
 - ii) Cumene (isopropyl benzene) is made by
 - a) oxidation of naphthalene
 - b) polymerization of a mixture
 - c) propylene alkylation of benzene
 - d) none of these.

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a) 1:1

b) 4:1

c) 9:1

d) 3:2.

iv) The steam of natural gas ratio for steam reforming is

- a) 4.5:1
- b) 2.5:1

c) 3.5:1

d) 1:1.

v) Synthesis gas is a mixture of

- a) $N_2 + O_2$
- b) $CO_2 + O_2$
- c) CO + H₂
- d) CH₄ + CO.

vi) In methanol production from oxidation of methane, the ratio of methane to oxygen is under pressure of 100 atm and 360 degree Celsius.

a) 1:2

b) 2:3

c) 9:1

d) 1:1.

vii) Which of the following is a detergent?

- a) Dichlorobenzene
- b) Polyethylene terephthalate
- c) Polytetrafluoroethylene
- d) Alkyl benzene sulphonate.

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with molecular weight more	than 1,00,000
ď	100 mm

a) easy to mold

viii) Polystyrene

is

- b) not easy to mold
- c) low strength
- d) none of these.
- ix) If the ratio of CO to H $_2$ in the feedstock for oxosynthesis is high, then the formation of is favoured.
 - a) alcohol

b) aldehyde

c) acid

- d) ether.
- x) In emulsion polymerization, the initiator used is usually soluble in
 - a) water

- b) hexane
- c) cyclohexane
- d) acetonitrile.

GROUP - B

(Short Answer Type Questions)

Answer any three of the following.

 $3 \times 5 = 15$

- 2. What do you know about methanator? In shift converters explain shortly about HTS, LTS.
- 3. Write short note on production of butadiene from butane by dehydrogenation.
- 4. What are the polymers produced from ethylene? Give some examples of their uses.
- 5. What are the main differences between Sohio and Monetedison process for the acrylonitrile production from propylene.

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GROUP - C (Long Answer Type Questions)



Answer any three of the following.

- 6. a) What is the oxosynthesis process?
 - b) Briefly describe the production of VCM (Vinyl chloride monomer) by oxichlorimation method. 7 + 8
- 7. Briefly describe the polystyrene production process and it applications. 9 + 6
- 8. Briefly describe the Keryl benzene sulphonate production process and then discuss about the activity of fillers, processing aids, binders, builders, bleaches, perfumes, foam agents, other additives in detergent.

 7 + 8
- 9. a) Describe the production process for Butyl Rubber.
 - b) Describe the production process for Phenol formaldehyde resin. 7 + 8
- 10. a) Briefly describe the production process of Ethylene glycols and uses.
 - b) Briefly describe the production process of Ethanol amines and uses. 8 + 7

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