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Indian Institute of Technology-Guwahati

Department of Chemistry

Course: CH429-Petroleum and Petrochemicals

86700 m

Quiz-2, Total marks-30

Questions 1-10: 10 x 1 = 10 marks

- Where does CO_2 absorb solar radiation?
(a) 567 cm^{-1} (b) 667 cm^{-1} (c) 767 cm^{-1} (d) 867 cm^{-1}
- What is the per capita CO_2 emission in India?
☒ (a) 1.58 mt (b) 1.68 mt (c) 1.78 mt (d) 1.88 mt
- In recent years, world leaders have stressed limiting global warming to --- $^\circ\text{C}$ by the end of this century.
(a) 1.3°C (b) 1.4°C ☒ (c) 1.5°C (d) 1.5°C
- Which compound is used in submarines for the purification of air?
(a) NaOH (b) ☒ LiOH (c) KOH (d) Na_2O_2
- Which compound is used in space station for the purification of air?
(a) NaOH (b) ☒ LiOH (c) KOH (d) $\text{Ca}(\text{OH})_2$
- Typical methanol plant carbon efficiencies can range from ----?
(a) 75-80% (b) 80-85% (c) 85-90% ☒ (d) 90-95%
- In which year the George Olah Renewable Methanol plant was commissioned?
(a) 2009 (b) 2010 (c) 2011 (d) 2012
- How much does the upper atmosphere contribute to the total formaldehyde in the environment? (a) 70% (b) 80% (c) 85% ☒ (d) 90%
- At what temperature does the acetylene/oxygen flame burn?
(a) 3400°C (b) ☒ 3500°C (c) 3600°C (d) 3700°C
- How much ethanol is produced globally by the fermentation process?
(a) 70% (b) ☒ 80% (c) 85% (d) 90%
- ☒ 11. What is the IUPAC name and formula of Ethylene glycol? Write the synthesis of Ethylene glycol. (2 marks)
- ☒ 12. Write five applications of Ethylene glycol. Is Ethylene glycol toxic? (3 marks)
13. What is the industrial process of Ethylene Production? Briefly discuss the process. Write a few applications of Ethylene. (5 marks)
- ☒ 14. What is Industrial alcohol, Absolute alcohol, Denatured alcohol, Power alcohol, and Alcoholic beverages? (5 marks)
- ☒ 15. How to prepare acetylene? Write a few applications of acetylene. (3 marks)
- ☒ 16. What is formalin? How does it preserve biological specimens? (2 marks)