

Q.P. Code : 37661

[Time: 3 Hours]

[Marks: 80]

Please check whether you have got the right question paper.

- N.B:**
1. Question no 1 is compulsory.
 2. Solve any three questions from remaining five questions.
 3. Draw flow sheets and diagrams wherever necessary.

- 1 Write short notes on :** **20**
- i) Give definition of detergents. How are they classified?
 - ii) How dyes impart color?
 - iii) In context of Le Chatelier's principle, how conversion of SO_2 to SO_3 in manufacture of sulfuric acid is affected by temperature and pressure?
 - iv) Discuss structure of HDPE and LDPE.
- 2. (a) Discuss manufacture of acetic acid by Monsanto process. 10**
(b) Discuss manufacture of sulfuric acid with neat flowsheet. 10
- 3. (a) Discuss manufacture of sugar from sugarcane. How the byproducts are utilized? 10**
(b) Discuss the process for manufacture of soda ash by Dual Solvay process and discuss its merits. 10
- 4. (a) Discuss with neat flowsheet process of manufacture of styrene from dehydrogenation of ethylbenzene. Which steps are taken to avoid polymerization of styrene to polystyrene? Why steam is added to ethyl benzene in dehydrogenation step? 10**
(b) What is objective of separation of xylenes? Discuss separation of xylenes with neat flowsheet. 10
- 5. (a) Discuss the manufacture of cumene with a neat flowsheet. 10**
(b) Discuss manufacture of Nylon 6 with neat flowsheet. 10
- 6. (a) What is Catalytic reforming? Explain the process of catalytic reforming with neat flow sheet. 10**
(b) Discuss manufacture of caustic soda with neat flowsheet. 10
-