

**B. Sc. (Industrial Chemistry) Examination April-2016**  
**Semester-V**  
**Paper- IC-503: Chemical Process Industries – I**  
**Subject Code: 4302**

**Time: 2.30 Hours**

**Total Marks: 70**

- Que.1 (A) "Sea water is a storehouse of chemicals" justify this sentence. 10  
(B) Which chemicals are directly obtained from sea water? 04  
OR
- Que.1 (A) What is sea bittern? How industrially  $\text{MgCO}_3$  is obtained from sea water? 10  
(B) Write about herbicides. 04
- Que.2 (A) Explain industrial production of ammonium sulphate. 10  
(B) Discuss the important essential requirement of fertilizer. 04  
OR
- Que.2 (A) What is fermentation? Explain production of industrial alcohol by fermentation process. 10  
(B) Give brief accounts on plant regulators. 04
- Que.3 (A) Discuss industrial production of butanol with sketch. 10  
(B) What is esterification? Explain with example. 04  
OR
- Que.3 (A) How industrially magnesium tri silicate manufactured? 10  
(B) What is fertilizer? Explain with example. 04
- Que.4 (A) Describe manufacture of acetic acid. 10  
(B) Write a short note on fungicides. 04  
OR
- Que.4 (A) Describe manufacture of lactic acid with flow sheet diagram. 10  
(B) State and explain uses of sodium sulphide. 04
- Que.5 (A) Describe manufacture of citric acid. 10  
(B) What is molasses? Give its application. 04  
OR
- Que.5 (A) Discuss manufacture of  $\text{MgSO}_4$  with flow sheet diagram. 10  
(B) State and explain factor which influence the process of fermentation. 04