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Total number of pages : 01

**B.Tech.
PECH5302**

**6th Semester Back Examination 2017-18
FERTILISER TECHNOLOGY**

BRANCH : CHEM

Time : 3 Hours

Max Marks : 70

Q.CODE : C348

Answer Question No. 1 which is compulsory and any FIVE from the rest.

The figures in the right-hand margin indicate marks.

Answer all parts of a question at a place.

- Q1. Answer the following questions : (2 x 10)**
- (a) With some examples explain micronutrients.
 - (b) Explain composting.
 - (c) Differentiate between primary and secondary plant nutrients.
 - (d) Write the properties of ammonium nitrate.
 - (e) The P_2O_5 content of SSP and TSP are _____ % and _____ %.
 - (f) What is bonemeal ?
 - (g) Write the chemical reactions occurring during the manufacture of ammonium chloride.
 - (h) Name the undesirable by-product(s) in urea synthesis.
 - (i) Differentiate between MAP and DAP.
 - (j) Explain fluid fertilizers with examples.
- Q2. (a) Name four plant macronutrients along with their sources. (8)**
(b) Discuss the functions of primary plant nutrients on crop production. (2)
- Q3. Critically compare inorganic fertilizers with organic manures. (10)**
- Q4. Discuss in detail the manufacture of urea with a neat flow diagram, giving emphasis on the major engineering problems arises during its manufacture. Also write its properties and uses. (10)**
- Q5. (a) With suitable chemical reactions explain phosphate fixation. (5)**
(b) Write briefly about potassium chloride. (5)
- Q6. With a neat flow sheet, describe the production of ammonium nitrate giving emphasis on the major engineering problems. (10)**
- Q7. (a) Discuss the characteristics, advantages, and disadvantages of complex fertilizers. (5)**
(b) Mention different grades of NPK complex fertilizers and write the specification of some grades. (5)
- Q8. Write short notes on any TWO: (5 x 2)**
- (a) Vermiculture
 - (b) Controlled release fertilizers
 - (c) Di-ammonium phosphate
 - (d) Role of organic manures