Registration No. : | | | | | | | | | | |

Total number of printed pages – 2

B. Tech

PECH 5302

Sixth Semester Regular Examination – 2014

FERTILIZER TECHNOLOGY

BRANCH : CHEM

QUESTION CODE : F 296

Full Marks – 70

Time : 3 Hours

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

The figures in the right-hand margin indicate marks.

1. Answer the following questions : 2×10

   (a) Differentiate between macro-nutrients and micro-nutrients with examples.

   (b) Write any two reasons for the need of micro-nutrients.

   (c) What is vermi-compost ?

   (d) What are the disadvantages of organic manures ?

   (e) Write the characteristics of potasic fertilizers.

   (f) Write the properties of urea.

   (g) What is rock phosphate ? Mention its use.

   (h) Write the specifications of triplesuperphosphate.

   (i) Write the uses of potassium chloride.

   (j) Total phosphate content (as P_2O_5) in di-ammonium phosphate and urea ammonium phosphate are _____ and _____ %.

2. (a) Discuss the main functions of micro-nutrients. 5

   (b) Discuss on the classification of manures. 5

3. (a) Critically compare between manures and fertilizers. 5

   (b) Discuss in detail about the classification of fertilizers. 5

P.T.O.

4. Discuss in detail the manufacture of ammonium sulphate by Gypsum process with a neat diagram giving emphasis on the various chemical reactions involved. Also write the properties and uses of ammonium sulphate. 10

5. (a) Write about the manufacturing process, properties, and uses of ammonium nitrate. 5

   (b) Write about the manufacturing process and properties of single superphosphate. 5

6. (a) Write the chemical reactions involved in the manufacture of potassium sulphate. Also, write its properties and uses. 4

   (b) Discuss in detail the characteristics, advantages, and disadvantages of complex fertilizers. 6

7. (a) Discuss about the various grades of NPK fertilizers. 6

   (b) Write about the applications of phosphatic and nitrogeneous fertilizers. 4

8. Write short notes on any **two** : 5×2

   (a) Compost

   (b) Calcium ammonium nitrate

   (c) Storage of fertilizers

   (d) Fluid fertilizers.