**Reg. No. \_\_\_\_\_\_\_\_**

**Karunya University**

**(Karunya Institute of Technology and Sciences)**

(Declared as Deemed to be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – April/ May - 2015**

**Subject Title: FOOD PLANT LAYOUT AND DESIGN Time : 3 hours**

**Subject Code: 13FP301 Maximum Marks: 100**

**Answer ALL questions (5 x 20 = 100 Marks)**

1. **Compulsory :**

Mr X wants to start a company manufacturing Instant premixes. You are deputed by the company to conduct a feasibility study. Can you do the same and give your suggestions?

2. Mr Y. wants to set up an aseptic processing unit. Based on the concepts of plant design, discuss in detail on the steps involved in designing the same, with proper justification

(OR)

3. Discuss in detail on the possible hazards in Food Industry and ways to prevent the same.

4. Discuss in detail on principles of Hygienic design of a Food Plant manufacturing fruit products.

(OR)

5. Discuss on the following:

a. Types of soil and methods of cleaning the same. (12)

b. Water treatment methods for carbonated beverage manufacture. (8)

6. a. Discuss in detail on the Richard Muther’s Simplified Systematic Plant Layout. (12)

b. Hence construct a layout for a large scale Jam processing plant and justify the same. (8)

(OR)

7. It is proposed to set up a dairy powder manufacturing unit. Calculate the total investment required for the same. Given – Cost of evaporator of 500kg/h capacity = Rs. 7 Lakhs in 2005. Cost of steam boiler of similar capacity in 2005 – Rs. 3 Lakhs. CEPC index for 2005 = 381.1 and for 2014 = 645. Cost-capacity factor =0.514

8. Discuss in detail on the following:

a. Factors contributing to the cost of a product. (15)

b. Depreciation. (5)

(OR)

9. Discuss in detail on the methods of determining profitability of a proposed venture.