

Code No: **RT41355**

R13

Set No. 1

IV B.Tech. I Semester Regular/Supplementary Examinations, Oct/Nov - 2018
SEED PROCESING AND STORAGE ENGINEERING
(Agriculture Engineering)

Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B

PART- A(22Marks)

- 1
 - a) Explain the typical drying curves with neat sketches. [4]
 - b) Explain why convection drying is considered as the most popular method of grain drying. [4]
 - c) List out the segments of total refrigeration load. [4]
 - d) List out and briefly explain destructive agents of grains in storage. [4]
 - e) Explain bunker storage with any diagram. [3]
 - f) List out the limitations of pneumatic conveyer. [3]

PART –B(3 X 16=48Marks)

- 2
 - a) Give a detailed account on any two EMC models. If 1000 kg of paddy seed at 25 % moisture content on wet basis is dried to 14 % moisture content for storage, calculate the amount of moisture removed in drying on wet and dry basis. [8]
 - b) List out the usefulness of EMC and derive henderson's equation. [8]
- 3
 - a) Give a detailed account on continuous flowing non mixing type of grain drier with a labeled diagram. [8]
 - b) Explain the construction and operation of rotary drier. [8]
- 4
 - a) List out different types of spoilage that occur in storage grains. [8]
 - b) List out the important changes taking place in grain during storage. [8]
- 5
 - a) Briefly explain various kinds of losses caused due to insect pest infestation on stored food grains. [8]
 - b) What are the different methods of estimation of damage available to assess damage caused to food grains? [8]
- 6
 - a) Give a detailed on the following bulk storage structures
(i) Pusa bin (ii) Brick and cement bin (iii) Vertical stylos [8]
 - b) Give a detailed account on traditional storage structures. [8]
- 7
 - a) List out the principles to be considered before selecting a conveying system and give a detailed account on belt conveyers idlers. [8]
 - b) Explain how grains are stored under controlled atmospheric conditions. [8]