

III B. Tech I Semester Regular Examinations, February-2022
AGRICULTURAL PROCESS ENGINEERING
(Agricultural Engineering)

Time: 3 hours

Max. Marks: 75

Answer any **FIVE** Questions **ONE** Question from **Each unit**
All Questions Carry Equal Marks

UNIT-I

1. a) With a neat sketch explain the working principle of hammer mill. [8M]
Enumerate the advantages and disadvantages of hammer mill.
b) Explain principle of operation, capacity, advantages and [7M]
disadvantages of screw conveyor.

(OR)

2. a) Write the characteristics of comminuted products. Explain [8M]
principle involved in smooth roll crushers.
b) Explain the principles and methods of food processing. [7M]

UNIT-II

3. a) Describe theory of liquid mixing. [8M]
b) Explain the criteria of mixer effectiveness and mixing index for [7M]
pastes and semi solid masses.

(OR)

4. a) Explain paddle agitators. [8M]
b) With neat sketch explain about turbine agitators. [7M]

UNIT-III

5. a) Explain design considerations of air-screen grain cleaners. [8M]
b) With a neat diagram explain briefly about cyclone separator along [7M]
with related equations.

(OR)

6. a) Define winnowing. With a neat sketch explain the working [8M]
principle of power operated winnower.
b) Explain disc separator with a neat diagram. [7M]

UNIT-IV

7. a) Explain in detail the construction and operation of LSU dryer [8M]
with a neat sketch.
b) If 1000 kg of paddy seed at 25% moisture content on wet basis is [7M]
dried to 14% moisture content for storage, calculate the amount
of moisture removed in drying on wet and dry basis.

Code No: R1931353

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SET - 1

(OR)

8. a) Define EMC. Explain EMC models with related equations. [8M]
b) Explain constant rate and falling rate period. [7M]

UNIT-V

9. a) Explain and draw the process flow chart for wet and dry milling of pulses. [8M]
b) With a neat sketch explain plate and frame filter press. [7M]

(OR)

10. a) With a neat sketch explain the working principle of screw press. [8M]
b) Describe modern methods of parboiling. [7M]

2 of 2