Code No: RT31353   **R13**   SET - 1

III B. Tech I Semester Supplementary Examinations, May - 2019
AGRICULTURAL PROCESS ENGINEERING
(Agricultural Engineering)

Time: 3 hours   Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
2. Answering the question in **Part-A** is compulsory
3. Answer any **THREE** Questions from **Part-B**

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PART –A

1	a)	Define fineness modulus.	[3M]
	b)	Explain the mixtures for dry powders and particulate solids.	[4M]
	c)	Differentiate between frictional and profile drag.	[4M]
	d)	What is equilibrium moisture content?	[4M]
	e)	What are the steps involved in parboiling of paddy.	[4M]
	f)	What is belt tripper?	[3M]

PART -B

2	a)	Explain different types of jaw crushers.	[4M]
	b)	Explain the working of hammer mill with a neat sketch.	[8M]
	c)	Explain kick's law for energy and power requirement in size reduction.	[4M]
3	a)	What are the different mixtures for cohesive solids?	[3M]
	b)	Explain different mixtures for dough, pastes and viscous materials.	[8M]
	c)	Explain rate of mixing and mixing index.	[5M]
4	a)	Derive an expression for terminal velocity of spherical particles.	[8M]
	b)	Explain the working of pneumatic separator.	[4M]
	c)	Explain the working of cyclone separator with a neat sketch.	[4M]
5	a)	Explain falling and constant rate drying periods using drying curves.	[8M]
	b)	Explain the working of fluidized bed dryer.	[8M]
6	a)	Explain the working of continuous rotary filters.	[8M]
	b)	Explain different modern parboiling methods.	[8M]
7	a)	Explain different discharge methods of bucket elevators.	[8M]
	b)	Explain design considerations of a screw conveyor with a neat sketch.	[8M]

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