Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular Examinations Feb-2021
AGRICULTURAL PROCESS ENGINEERING
(Agricultural Engineering)

Time: 3 hours   Max. Marks: 60

PART-A
(Answer all the Questions 5 x 2 = 10 Marks)

1	a	Give the classification of Thermal and Electrical properties of biological materials.	2M
	b	Define specific heat, thermal conductivity and thermal diffusivity.	2M
	c	Define Grading and Separation.	2M
	d	What are the parameters for evaluation of performance of a size reduction machine?	2M
	e	Give the classification of parboiling methods.	2M

PART-B
(Answer all Five Units 5 x 10 = 50 Marks)

UNIT-I

2 Explain the visco-elastic and visco-plastic behavior of material with time effects.   **10M**

OR

3 List out the rheological models and derive kelvin model with related equations.   **10M**

UNIT-II

4 Write the classification, importance and application of electrical and thermal properties.   **10M**

OR

5 Write the application of engineering properties in handling and processing machines and also in storage structures.   **10M**

UNIT-III

6 a Explain working principle specific gravity separator with neat sketch.   **5M**
  b Explain the pneumatic separation of food grains.   **5M**

OR

7 A cyclone separator having the following specifications is used to collect particles of specific gravity 1.2. Cyclone diameter=180 cm; Air inlet diameter=30 cm; Separating height= 2.5 of dia. Of inlet; Helix pitch=15°; Inlet width=10 cm and Entry particle velocity= 15 m/s. Compute the smallest particle which can be collected. Estimate the pressure drop through the unit.   **10M**

UNIT-IV

8 Explain Jaw crusher and serrated crusher with neat sketch   **10M**

OR

9 In wheat milling experiment it as found that to grind 4.33mm sized grains to IS sieve 35 (0.351 mm opening). The power requirement was 8 KW, calculate the power requirement foe milling of wheat by the same mill to IS sieve 15 (0.157 mm op   **10M**

UNIT-V

10 a Write the advantages and disadvantages of parboiling.   **5M**
   b Explain CFTRI method of parboiling   **5M**

OR

11 Explain the flow chart of modern rice mill.   **10M**

END