53 (FPT 402) CLPT

2017

CEREALS AND LEGUMES PROCESSING TECHNOLOGY

Paper : FPT 402

Full Marks : 100

Time : Three hours

The figures in the margin indicate full marks for the questions.

*Answer **any five** questions.*

1. *(a)* A sand mixture was screened through a standard 12 mesh screen. The mass fraction of the over size material in feed, overflow and underflow were found to be 0·4, 0·8 and 0·2 respectively. Calculate the screen effectiveness based on the over size materials.   10

    (b) What do you mean by screening ? Discuss the different factors which affect screening. Write short notes on vibratory screen.   10

2. (a) Listout the properties of solids affecting the size-reduction operation. Give *four* examples of coarse-crusher equipments. 10

(b) How much power is required to crush 2*ton/hr* of a material if 80% of the feed passes through is sieve no. 480 (4·75*mm* opening) and 80% of the product posses through is sieve no. 50 (0·5*mm* opening) ? Given work index of the material is 6·30. 10

3. (a) What do you mean by parboiling of paddy ? Discuss different methods/ steps of parboiling. **Write down** *two* advantages and *two* disadvantages of parboiling. 10

(b) Explain in detail the construction and working of horizontal whitening cone with neat sketches. 10

4. (a) Draw flow diagram of wet milling method of Dal processing. 10

(b) Write a short note on tempering of wheat. 10

5. Differentiate the following : 5×4=20

(a) Disk separator and Spiral separator

(b) Jaw crusher and Gyratory crusher

(c) Hard wheat and Soft wheat

(d) Crushing and Grinding.

6. Write short notes on : 5×4=20

(a) Types of rice

(b) Angle of repose

(c) Sphericity

(d) Rubber roll sheller.

7. Discuss the different engineering and biological properties of agricultural materials with examples. 20

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