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53 (FPT 402) CLPR

2019

**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) List out the names of milling equipment used for rice. 10
- (b) Draw flow diagram of Corn wet-milling process. 10
2. (a) A sand mixture was screened through a standard 18 mesh screen. The mass fraction of the oversize material on feed, overflow and underflow were found to be 0.399, 0.799 and 0.199 respectively. Calculate the screen effectiveness based on the oversize materials. 10

Contd.

(b) Explain in detail, the construction and working of Vibratory Screen with neat sketches. 10

3. (a) What is Crushing and Grinding Efficiency? Why do we require more and more power to grind smaller and smaller particles? 10

(b) With two advantages and disadvantages, discuss different modern methods of Parboiling. 10

4. Differentiate the following : 5x4=20

(i) Wet screening and Dry screening

(ii) Blake-type jaw crusher and Dodge-type jaw crusher

(iii) True density and Bulk density

(iv) Disk separator and Spiral separator.

5. (a) Discuss different physical properties of rice. 10

(b) Write a short note on Rubber roll sheller. 10

6. (a) Find the power required for crushing 5 ton/h of lime stone (Rittinger Number =  $0.765m^2/J$ ) if the specific surface areas of the feed and the product are 100 and  $200m^2/kg$  respectively and if the machine consumes a power of 4hp, calculate its efficiency. 10

(b) Draw the flow diagram of Wheat processing in a modern mill. 10

7. Write short notes on : 4x5=20

(i) Trommel

(ii) Sphericity (Physical Properties)

(iii) Bond's law (Size Reduction)

(iv) Cyclone Separator

(v) Angle of repose.

