KERALA AGRICULTURAL UNIVERSITY
B.Sc. (Ag) 2006 Admission Vth Semester
Final Examination, March 2009

Engg. 3102
Post Harvest Engineering (1+1)

Max. Marks: 60
Time: 2 hours

I Answer all questions $20 \times 0.5 = 10$

Fill in the blanks

1. Specific heat of agricultural material is expressed in _____
2. Density of any material can be expressed as _____
3. Safe storage of moisture content of grain is _____
4. Whitening of rice is refers to removal of _____
5. Threshing is the process of removal of _____
6. Seperation based on colour is called _____
7. _____is the solvent generally used for oil extraction in solvent extraction method
8. Capacity of modern rice mill ranges from _____
9. _____ includes grading, sorting, dehusking, separation etc.,

Choose the best answer

10. In deep bed drying the layer of grain is
    a. 10-12 cm b. 20 cm
    c. more than 15 cm d. upto 5 cm
11. Shelled rice is the combination of
    a. Head rice and broken rice b. Head rice only
    c. Head rice, broken rice and hush d. none of the above
12. Removal of outer seed coat from grain is
    a. Husking b. seperation
    c. grading d. none of the above
13. The separator separates iron and other metallic particles of raw paddy is
    a. colour seperator b. electrostatic seperator
    c. magnetic separator d. spiral seperator
14. Removal of few larger particles in the initial stage is
    a. Grading b. Scalping
    c. Cleaning d. Screening

True or false

15. In rubber roll sheller two rollers are rotating in same direction
16. Screens are used in cleaners
17. Bukhari is a modern storage structure for grain
18. Bucket elevator is used for horizontal movement of grains
19. High moisture tends to more damage of products
20. The depth of layer of grain is upto 15 cm in thin layer drying

II. Answer all questions 6 X 1=6

1. Define thermal conductivity of grains
2. What is gelatinization in paddy parboiling
3. What is parboiling
4. Define cleaning efficiency
5. Define tempering
6. Give some examples for material handling and transportation in processing

III. Answer any six 6 X 2 = 12

1. Define equilibrium moisture content
2. Define rheological properties of grains
3. What is solvent extraction method in oil extraction
4. What are the modern parboiling methods
5. Enumerate the merits of using huller in rice milling
6. Explain refining of oil
7. What is deep bed drying
8. Write about principle operation of internal runner huller

IV. Answer any four 4 X 3 = 12

1. Write short note on rat proof storage structures
2. Write the advantages and disadvantages of parboiling
3. What are techniques to minimize the breakage of rice
4. Write the principle of operation of LSU drier
5. Enumerate the merits and demerits of bag and bulk storage of grains
6. write the pulse milling techniques with flow diagram

V. Answer any four 4 X 5 = 20

1. Discuss the principles and operation of rubber roll Sheller with neat sketch
2. Describe the process of traditional and wet milling of pulse processing
3. Write the merits and demerits of sun drying and mechanical drying
4. Discuss the traditional and modern storage structures in grain storage
5. write about the polishing methods of rice with neat sketch