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Reg. No. :

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**Question Paper Code: 54A02**

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2021

Fourth Semester

Agriculture Engineering

15UAG402-POST HARVEST TECHNOLOGY

(Regulation 2015)

(Usage of psychometric chart is approved)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. The following is an indirect type of moisture measurement method CO1- R
  - (a) Air oven
  - (b) desiccators
  - (c) infrared
  - (d) electrical resistance
2. A mixing type continuous flow dryer is CO1- R
  - (a) Flat bed dryer
  - (b) LSU dryer
  - (c) Recirculating dryer
  - (d) None of these
3. Drying is a process of CO2- R
  - (a) Heat transfer
  - (b) Mass transfer
  - (c) Heat and Mass transfer
  - (d) Moisture transfer
4. Recent innovation in belt conveyor system for grain handling is CO2- R
  - (a) Belt speed upto 4.5 m/s
  - (b) Belt speed from 2.5- 2.8 m/s
  - (c) Belt speed upto 3.5 m/s
  - (d) Belt speed upto 5.5 m/s
5. A scalper is used for CO3- R
  - (a) Fine separation of materials
  - (b) medium separation of materials
  - (c) rough separation of materials
  - (d) stone separation
6. \_\_\_\_\_ refers to the removal of large particles in initial process CO3- R
  - (a) Grading
  - (b) Sorting
  - (c) Scalping
  - (d) None of these

7. The following material handling equipment is more convenient to transport material over long distance CO4- R
- (a) Screw conveyor (b) belt conveyor
- (c) pneumatic conveyor (d) bucket elevator
8. Glazing of rice is done using CO4- R
- (a) Talc powder (b) Hydrogen peroxide (c) Water (d) CO<sub>2</sub>
9. Limitation of Pneumatic Conveying is/ are CO5- R
- (a) Erosion of solid surfaces (b) Erosion of duct system
- (c) Impact between particles (d) All of the above
10. In rubber roll sheller, the dehusking of paddy occurs due to CO5- R
- (a) Shear (b) shear and impact
- (c) shear and compression (d) compression and impact

PART – B (5 x 2= 10 Marks)

11. Define equilibrium moisture content. CO1- R
12. Differentiate thin layer and deep bed drying. CO2- R
13. List the separator which separates grains based on length. CO3- R
14. Suggest a suitable material handling equipment to transport bagged materials. CO4- R
15. Mention the end products of wheat milling. CO5- R

PART – C (5 x 16= 80 Marks)

16. (a) Specify the importance of optimum stage of harvest. Explain the working of mechanical thresher for paddy. CO1- U (16)
- Or
- (b) Describe the direct and indirect methods of moisture measurement CO1- U (16)
17. (a) Define seven thermodynamic properties of air and specify its importance in drying CO2- U (16)
- Or
- (b) Explain the working of LSU dryer and fluidized bed dryer with neat sketch CO2- Ana (16)
18. (a) Explain the working of spiral separator and magnetic separator. CO3- Ana (16)
- Or
- (b) Explain the working of intended cylinder separator and inclined CO3- Ana (16)

belt separator.

19. (a) Describe working of maize sheller and groundnut decorticator.. CO4- U (16)  
Or  
(b) (i) Differentiate between discharge methods of bucket elevators. CO4- Ana (8)  
(ii) Explain in detail about elevator belt and drive mechanism of CO4- Ana (8)  
bucket elevator.
20. (a) Explain the working of rubber roll sheller and rice polisher. CO5- U (16)  
Or  
(b) Describe the process involved in wheat milling. CO5- U (16)

