

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.Tech. Winter2019 – 20 Examination

Semester: 5

Subject Code: 03110309

Subject Name: Crop Process Engineering

Date: 03/12/2019

Time: 10:30 am to 1:00 pm

Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 Objective Type Questions - (Fill in the blanks, one word answer, MCQ-not more than Five (15) in case of MCQ) (All are compulsory) (Each of one mark)

1. The mixture of oil and n-hexane solvent is know as _____.
2. The process of removal of air from cans before heat processing is called_____.
3. The separation of liquid from solid containing liquid by applied pressure is termed as _____.
4. Kick's law gives reasonably good results for _____grinding.
5. Homogenization means the reduction in _____by pressure.
6. _____is the removal of moisture from fruits and vegetables by artificially produced heat under controlled condition of temperature, relative humidity and air flow.
7. _____ is a relatively mild heat treatment, in which food is heated to below 100°C.
8. The process of removing germ, hull and tip cap from the kernel and to get grit is termed as _____.
9. _____is hydrothermal process in which paddy soaked in water followed by gelatinization by steaming.
10. _____ solvent is commercially used in India for oil extraction.
11. _____is not concerned with ionizing radiation.
 (a) Sterilization (b) Control ripening (c) Enhance sprouting (d) Increase shelf life
12. Addition of water to the bran and endosperm is know as_____.
 (a) De-Germinating (b) tempering(c) hydrogenation (d) steeping
13. The appearance of dark color extracted oil can be improved by_____.
 (a) De-odorizing (b) bleaching (c) Wintering (d) neutralization
14. _____force is dominating in process due to pulveration of the material between two toothed metal disks rotating in opposite direction.
 (a) Compressive (b) Impact (c) Attrition (d) Cutting
15. Preserving food by heating and sealing hermetically is known as_____.
 (a) drying (b) canning (c) blanching (d) radiation processing

Q.2 Answer the following questions. (Attempt any three) (15)

- A) Define size reduction ?What is the need of size reduction?
- B) What is mixing ?classify the mixing depending on the equipment and mixing mechanisms used. Which are the criteria for performance evaluation of mixer?
- C) Define the following terms.
 (1)Rancidity (2)Hydrogenation of oil (3)Wintering (4)Saponification value (5)iodine value
- D) Which Principles are considered during selection of conveying system ?

Q.3 A) What is dehydration? Explain dehydration of fruit and vegetables with flow-sheet and also give a FPO specification for dehydrated fruits and vegetables. (07)

- B) Describe bucket elevator and its component in brief also classify various types of bucket elevator (08)**

OR

- B) Explain theory of separation covering Screening , size & un-sized separation, filtration, Principle of cake filtration and rate of filtration (08)**

Q.4 A) Describe Basic process of pulse milling and Give a flow diagram of CFTRI method of pigeon pea milling. (07)

OR

- A) Explain pulse milling and the terminology used in pulse milling. (07)**
- B) Explain in detail fruit and vegetables canning process with process flow chart. (08)**