Ref. No Ex/FTBE/PC/B/T/313/2024

B.E (FTBE) THIRD YEAR, FIRST SEMESTER EXAMINATION 2024

FOOD PROCESS TECHNOLOGY - II

Time : Three Hours (50 Marks for each Part) Use separate answer script for each Part **Full Marks : 100**

PART- I (50 MARKS)

ANSWER Q1 AND ANY TWO FROM THE REST

Q1. Fill in the blanks: **10 × 1 = 10**

a. Post-bleaching removes .....color in oils.
b. .....process minimizes waste water generation and maximizes co-product value in edible oil extractions.
c. Deodorized oils have .....% FFA.
d. Oil content of the raw material before it enters the production line is preferably estimated by.....process.
e. Continuous bleaching process entails huge expenditure due to.....
f. Cooker temperature range of .....(°C) is recommended for cottonseeds.
g. Low temperature distillation ensures .....in cake/meal.
h. .....chiefly constitutes the hydrophobic exterior in reverse micelles in oil processing.
i. In a continuous counter-current multistage extractor, a small number of contact stages are needed if flakes/solvent ratio is.....
j. Refining efficiency = ...

Q2. Comparatively evaluate the following for vegetable oils (any 10): **10 × 2 = 20**

a. Degumming as 'Pre-treatment' *vs.* Degumming as 'Refining operation' for cottonseed oil
b. Bleaching for Corn oil *vs.* Bleaching for Palm oil
c. IPA extraction *vs. n*- Hexane extraction for soybean oil
d. Bar huller *vs.* Disc huller
e. Green odor *vs.* Earthy odor
f. New fat manufacture With *vs.* Without changes in degree of unsaturation
g. Lipase activity in Soybean oil *vs.* Cottonseed oil
h. Refining strategy for Sunflower oil *vs.* RBO
i. Oil content in seeds Pre-hulling *vs.* Post-hulling
j. Plastic fats that Obey *vs.* plastic fats that Disobey Coleman-Fulton theory
k. Yields of oil and cake from groundnuts (48% oil and 5% moisture) pressed to leave 6% oil in cake (7% moisture) 'considering' *vs.* 'ignoring' moisture loss.
l. Flaking *vs.* Grinding of oilseeds

[Turn over

Q3. Diagrammatically explain the following: **2 × 10 = 20**

a. Counter-current multistage n-hexane extraction of soybean oil in a 'moving horizontal extractor'
b. Diagrammatically illustrate pervaporation as a method of separation of constituents of IPA oil mixture in a laboratory scale

Q4. Enumerate the following: **4 × 5 = 20**

a. Processes of lecithin recovery in a soybean oil producing plant
b. Factors (with the aid of graphs and equations) that govern solvent extraction of oil from oilseeds
c. Soap-oil separation in oil refineries
d. Factors to be governed to obtain crystal-free winter oil

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B.E. FOOD TECHNOLOGY AND BIO-CHEMICAL ENGINEERING THIRD YEAR FIRST SEMESTER EXAM 2024

Subject:**FOOD PROCESS TECHNOLOGY - II**

Time-3 hrs | Part-II (50) | FM-100

Answer question no 4 and any two from the following

1. Discuss the working principle of ferinograph and alveograph. What are the different types of baking ovens commonly used in baking industries? 6+6+8=20

2. What is the difference between nutritional value of raw rice and parboiled rice? Discuss the working principle of colour shorter and rubber roller dehusker. 7+7+6=20

3. How can you decide whether wheat is hard or soft (discuss mentioning different test)? Write a short note on baking powder and Biological leavening agent. 8+6+6=20

4. Discuss the function of different ingredients commonly used in cake preparation process. 10