



**KERALA AGRICULTURAL UNIVERSITY**  
**B.Tech. (Food Engg. & Tech.) 2018 Admission**

**V Semester Final Examination-February 2021**

**Fdpr.3103**

**Oil Chemistry and Technology (2+1)**

**Marks:50**  
**Time:2 hours**

**I Choose the correct answer**

**(10x1=10)**

- Supercritical fluid extraction technique is suitable for extraction of:  
a. Protein                      b. Carbohydrate              c. Germ                      d. Essential Oil
- Rice bran spoils mainly due to:  
a. Moisture                      b. Caking                      c. FFA formation              d. Darkening  
absorption
- After milling of rice under favorable conditions, the rate of increase of FFA in bran may be as high as:  
a. 0.25% per hour              b. 0.5% per hour              c. 0.75% per hour              d. 1.0% per hour
- Essential oil is prepared by operation  
a. Distillation                      b. Evaporation                      c. Sedimentation              d. Crystallization
- Palmitic acid is:  
a. 16:0                              b. 16:1                              c. 18:0                              d. 18:1

**Fill in the blanks**

- \_\_\_\_\_ is used as solvent in solvent extraction of oil.
- \_\_\_\_\_ distillation is used in the food industry in the preparation of volatile oils.
- \_\_\_\_\_ is the major cholesterol carrier in blood.
- Lipids are made up of fatty acids and \_\_\_\_\_.
- Saturated fatty acids have \_\_\_\_\_ melting point than the saturated ones with the same chain length.

**II Write Short notes on ANY FIVE of the following**

**(5x2=10)**

- Explain why a multi stage continuous counter-current extractor has the advantage over both co and counter current processes?
- Enlist the methods used for extraction of oil.
- What are lipoproteins? Name them.
- What are the constructional features of Rotocel extractor? Draw a neat diagram.
- What are essential fatty acids? Give examples.
- Define iodine value and importance of its measurement.
- What is saponification?

**III Answer ANY FIVE of the following**

**(5x4=20)**

- Explain winterization.
- Write a note on Supercritical Fluid Technology.
- How the solvent recovery is being accomplished in the oil processing industry?
- What are mono unsaturated and poly unsaturated fatty acids? What are their main sources and nutritional role?
- Define rancidity. Describe the different types of rancidity.
- Describe the process of Inter-esterification and its importance.
- Write factors influencing the rate of extraction in oil processing



**IV Write an essay on ANY ONE of the following**

**(1x10=10)**

1. Describe the process of hydrogenation. Also describe the advantages and disadvantages of hydrogenation.
2. Draw the process flow chart of Mechanical Expression of Oil from Oil Seeds. Also compare mechanical and solvent extraction method of oil extraction.

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