

GUJARAT TECHNOLOGICAL UNIVERSITY
B.E. Sem-III [Food Processing Technology] Examination December 2009

Subject code: 131401**Date: 17 /12 /2009****Subject Name: Food Chemistry****Time: 11.00 am – 1.30pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1 Answer the following

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| (a) | Discuss physical properties of lipid. | 05 |
| (b) | What are the ideal characteristics of food additives. | 05 |
| (c) | Focus light on the importance of dietary fibres in the diet. | 04 |

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| Q.2 | (a) Discuss the role of moisture in foods and its determination by distillation method | 07 |
| | (b) Define terms; Acid value, Kishcher Value, Reversion , Zwitter ion | 04 |

OR

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| | (b) Introduce term: Polymorphism of fat, gel formation of protein , Winterization, Hydrogenation of oil. | 04 |
| | (c) Describe protein Coagulation theories. | 03 |

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| | (c) Give various scheme of classification for amino acids with examples. | 03 |
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| Q.3 | (a) What is isoprene? How isoprene is related to carotene? | 05 |
| | (b) Give the basis for classification of minerals with suitable examples. | 05 |
| | (c) Enlist the functions and sources of phosphorous and iron. | 04 |

OR

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| Q.3 | (a) Write the consequences of Ca deficiency in the human body. | 05 |
| | (b) Define emulsion and briefly explain the different types of emulsions. | 04 |
| | (c) Explain in detail the flavonoids. | 05 |

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| Q.4 | (a) Give detail classification of carbohydrates with suitable examples. | 07 |
| | (b) Explain the different ways to control the water activity in foods. | 07 |

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| Q.4 | (a) Explain the concept of starch gelatinization and retrogradation phenomena. | 07 |
| | (b) Enlist the different types of pigments found in food and explain in detail about the anthocyanin. | 07 |

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| Q.5 | (a) Give any five Chemical properties of lipid and their significance respectively. | 05 |
| | (b) Explain various level of protein structures. | 05 |
| | (c) Discuss factors that affecting on solubility of proteins. | 04 |

OR

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| Q.5 | (a) Explain various methods of extraction of oil from oil tissues. | 05 |
| | (b) What is denaturation of protein? Give consequences changes due to denaturations. | 04 |
| | (c) Give various classes of proteins and their major properties. | 05 |
