

**COLLEGE OF FISHERIES, KISHANGANJ
BIHAR ANIMAL SCIENCES UNIVERSITY, PATNA**

Lecture Plan for B.F.Sc. 2nd Semester

Course Title – Food Chemistry

Course code- FPT-121

Credit hrs. 3(2+1)

Theory

<i>Sl no.</i>	<i>Topic</i>	<i>No of lecture</i>
1.	Composition of food and nutritional value. Moisture in foods.	2
2.	Biological oxidation, electron transport chain, P/O ratio; oxidative phosphorylation.	1
3.	Carbohydrates: Naturally occurring polysaccharides in foods, Seaweed polysaccharides - sources and uses.	1
4.	Browning reactions enzymatic and non-enzymatic.	1
5.	Lipids: metabolism of lipids, oxidation of fatty acids, lipoproteins; VLDL and HDL and their importance.	2
6.	Proteins: metabolism, deamination, decarboxylation, metabolic fate of amino acids, nitrogen balance. Deamination reactions and nitrogen excretion (with special reference to fish)	3
7.	Fish muscle proteins, chemical changes in muscle during contraction.	1
8.	Proteins in foods, role in hydration- native and denatured proteins, gel formation, functional properties of proteins, changes during heat treatment and processing, texturised proteins.	2
9.	Chemistry of taste, flavour and odour components in foods, flavour intensifiers, synthetic flavouring substances.	1
10.	The taste of fish and shellfish.	1
11.	Food additives types and their chemical nature, emulsifiers and antimicrobial additives, sequestrants, flavour potentiators surface active agents; non-nutritive sweeteners, colour additives in food.	2
12.	Assessment of quality of food by instrumental and chemical methods.	1
13.	Nutritive value of foods. Energy value and energy requirements and their estimation.	2
14.	Water, electrolytic and acid-base balance.	1
15.	Nutritive value of proteins PER, BV digestibility coefficient, NPU values, pepsin digestibility.	2
16.	Role of fiber in human nutrition.	1

Total no of lecture	19
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Practical

Sl no.	Practical	No of lecture
01.	Estimation of moisture in feed/fish	1
02.	Estimation of crude protein	1
03.	Estimation of crude lipid	1
04.	Estimation of ash	1
05.	Determination of energy value of fish.	1
06.	Estimation of glucose and salt content in foods	2
07.	Use of pH meter	1
08.	Estimation of freshness quality indices of fish	1
09.	Estimation of free fatty acid	1
10.	Estimation of peroxide value	1
11.	Estimation of fibre in foods.	1
Total No of Practical		11

Course Instructor
Ms. Susmita Rani