

ASSIGNMENT TOPIC	Exploring Functional Foods and Nutraceuticals
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Part – A

1. Define functional foods and nutraceuticals. What are the key characteristics that differentiate them from regular food products?

Ans:- Functional Food :- Functional foods are foods that provide health benefits beyond basic nutrition. These foods contain bioactive compounds that can have positive effects on health when consumed as part of a regular diet. The concept of functional foods has gained popularity as people become more interested in the relationship between diet and health.

Key Characteristics:

- **Bioactive Compounds:** Functional foods contain biologically active components that contribute to health.
- **Nutrient Density:** They are often rich in essential nutrients like vitamins, minerals, fiber, and antioxidants.
- **Disease Prevention:** Consumption is associated with a reduced risk of chronic diseases.
- **Fortification or Enrichment:** Some are fortified or enriched with additional nutrients to enhance health benefits.
- **Targeted Health Benefits:** Developed to address specific health concerns or conditions.
- **Probiotics and Prebiotics:** Foods may contain live microorganisms (probiotics) or substances promoting beneficial gut bacteria growth (prebiotics).
- **Functional Beverages:** Certain drinks, like those with added vitamins or herbal extracts, are considered functional foods.

Nutraceuticals:- Nutraceuticals are products that combine the qualities of both nutrition and pharmaceuticals. The term "nutraceutical" is a portmanteau of "nutrition" and "pharmaceutical," reflecting the idea that these products provide health benefits and may have medicinal properties. Nutraceuticals can include a wide range of products, such as dietary supplements, fortified foods, herbal products, and functional foods. The key characteristic of nutraceuticals is that they offer health benefits beyond basic nutrition.

Key Characteristics:

- **Supplementation:** Often provided in the form of dietary supplements.
- **Fortification:** Products may be fortified with additional nutrients or bioactive compounds.

- **Medicinal Properties:** Some nutraceuticals, particularly herbal supplements, are believed to have medicinal properties.
- **Targeted Health Benefits:** Developed to address specific health concerns.
- **Diverse Products:** Include dietary supplements, fortified foods, herbal products, and functional foods.
- **Not Officially Regulated:** The term is not universally regulated, leading to variability in classification.

Differentiation from Regular Food Products:

- **Health Benefits:** Both functional foods and nutraceuticals provide health benefits beyond basic nutrition, distinguishing them from regular food products.
- **Bioactive Compounds:** They contain specific bioactive compounds, such as probiotics, antioxidants, or herbal extracts, not present in all traditional foods.
- **Targeted Health Goals:** Functional foods and nutraceuticals are often designed to address specific health goals or conditions, whereas regular foods primarily focus on basic nutrition and taste.
- **Fortification or Enrichment:** The addition of extra nutrients or bioactive substances sets functional foods and nutraceuticals apart from regular foods.
- **Supplementation:** Nutraceuticals often come in the form of supplements, offering concentrated doses of specific compounds that may be lacking in a standard diet.

2. Why are functional foods and nutraceuticals important for modern nutrition and health?

- **Disease Prevention and Health Promotion:** Functional foods and nutraceuticals are often designed to provide specific health benefits, contributing to the prevention of chronic diseases and the promotion of overall well-being.
- **Convenience and Accessibility:** They offer convenient ways to incorporate health-promoting compounds into the diet, providing an accessible means for individuals to meet their nutritional and health goals.
- **Bridge Nutritional Gaps:** In situations where individuals may have difficulty obtaining certain nutrients from regular dietary sources, fortification and supplementation with functional foods and nutraceuticals can help bridge nutritional gaps.
- **Customization of Diets:** These products allow for the customization of diets based on individual health needs. People with specific dietary requirements or health concerns can choose products tailored to their conditions.
- **Support for Specific Health Conditions:** Nutraceuticals, in particular, are often used as complementary approaches in managing specific health conditions. For example, omega-3 fatty acid supplements may support cardiovascular health.
- **Enhanced Nutrient Intake:** Fortified foods and supplements can enhance the intake of essential nutrients, especially in populations with nutritional deficiencies or limited access to diverse food sources.

- **Functional Ingredients for Everyday Diets:** By incorporating functional ingredients into everyday foods, individuals can easily integrate health-promoting compounds into their meals without making drastic changes to their eating habits.
- **Public Health Impact:** The potential to improve public health is significant, as these products can be utilized in public health programs to address specific nutrient deficiencies or promote health in targeted populations.
- **Scientific Advancements:** Advances in food science and technology have allowed for the development of products with optimized bioavailability and efficacy, ensuring that the bioactive compounds in functional foods and nutraceuticals are effectively utilized by the body.
- **Consumer Awareness and Demand:** Growing awareness of the link between diet and health has led to increased consumer demand for products that offer functional benefits. This, in turn, encourages food manufacturers to develop and market innovative functional food and nutraceutical products.
- **Preventive Health Care Approach:** The emphasis on preventive healthcare has driven interest in functional foods and nutraceuticals, as they are seen as proactive measures to maintain health and prevent the onset of certain diseases.

It's crucial to note that while functional foods and nutraceuticals can be valuable components of a healthy lifestyle, they should not be viewed as substitutes for a balanced diet and healthy lifestyle practices. A well-rounded diet, physical activity, and other healthy behaviors remain fundamental to overall health and well-being.

PART - B

Objective: The objective of this assignment is to conduct a market visit to gather information on functional foods. You will observe the products available, their features, and the health benefits in a local market.

Categorization:-

❖ Functional Food Help to booster Immunity

1. Product Name= Family Secret Nutrition Mix

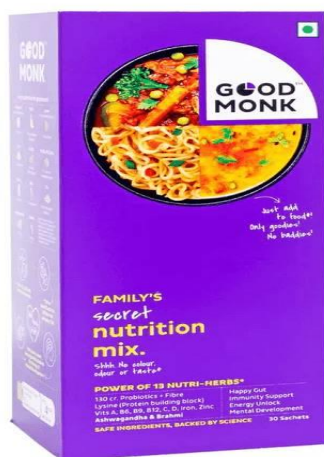
Health claim:- Improves Gut Health, Immunity & Daily Energy

India's 1st Nutrition Mix with No Taste, Colour or Smell - when added to food

Has Clinically Proven Probiotics & Fiber, 8 Vitamins & Minerals (Incl Vit B12, C, D, Iron & Zinc), Lysine (Protein Building Block), Ashwagandha & Brahmi.

No Added White Sugar, No Artificial Preservatives & Low Calorie.

Age :- 4 to 45



Nutritional Information (Approx.)			
Serve Size - 2.3g (1 sachet*) Serving per pack - 30 sachets			
	Per sachet 2.3g	% RDA for 1 sachet **	% RDA for 2 sachets ##
Energy (kcal)	4	0.2	0.4
Carbohydrates (g)	1.8		
Total Sugars (g)	0.1		
Added Sugars (g)	0.1	0.2	0.4
Dietary Fibre - Prebiotics (g)	1.6	5	11
Protein (g)	0		
Lysine - Protein building block (mg)	250	20	26
Total Fat (g)	0	0	0
Sodium (mg)	1.5	0.07	0.15
Probiotics (CFU)	130 crore		
Vitamin A (mcg)	237	30	47
Vitamin B6 (mcg)	0.6	30	63
Vitamin B9 (mcg)	40	30	45
Vitamin B12 (mcg)	0.75	34	68
Vitamin C (mg)	16.2	30	41
Vitamin D (IU)	180	30	60
Iron (mg)	5.6	20	59
Zinc (mg)	1.7	20	20
KSM-66 Ashwagandha (mg)	67.5	15	30
Brahmi (mg)	20	10	20

** %RDA calculated based on ICMR 2020 (10-12 years)
%RDA calculated based on ICMR 2020 (Sedentary man)
*Nutritional information - based on calculated/tested values

2. Product Name:- Multivitamin Gummies

Boosts immunity with Vitamin C, Haldi and Vitamin B12

Supports antibody production and **strengthens the immune system** with Vitamin B9 and Vitamin D

Contains **no added sugar**

60 Gummies | No side effects | Paediatrician Recommended

Boosts:

- Immunity
- Bone Health
- Brain Health
- Eyesight
- Hair & Skin



MULTIVITAMIN GUMMIES NUTRITIONAL INFORMATION

Serving size - 1 gummy per day

Nutrients	Amount per serving	%RDA#	Nutrients	Amount per serving	%RDA#
Energy	8.5 Kcal	*	Vitamin D3	600 IU	100
Total Carbohydrates	2.95 g	*	Vitamin B7 (Biotin)	20 mcg	100
Sugars (naturally occurring sugars)	0.99 g	*	Vitamin B9	102 mcg	85
Protein	0.05 g	<1	Vitamin C	20 mg	66.66
Fibre	1.91 g	*	Vitamin B6	0.6 mg	66.66
Total Fat	0.01 g	*	Vitamin E	5 mg	50
Proprietary Fruits and vegetables antioxidant blend	100 mg	*	Vitamin B3	3 mg	42.85
Vitamin A	390 mcg	100	Vitamin B5	1.5 mg	37.5
Vitamin B12	1.2 mcg	100	Zinc	1 mg	30.3
			Curcumin	5 mg	*
			DHA	5 mg	*

3. Product Name:- NESTLÉ CEREGROW KIDS Cereal- Multigrain, Milk & Fruits

Nutrient-Rich Tasty Breakfast

Rich in Iron ,Calcium &Protein

NO Added Colors or Flavors



Nutrition Information		
Nutrients	Approximate composition per 100g	
Energy	Kcal	413
Protein	g	12.5
Carbohydrate	g	76.6
- Total Sugars**	g	22.5
- Added Sugars	g	10.3
Total Fat	g	9.4
- Saturated (not more than)	g	4.6
- Trans fat (not more than)*	g	0.04
- Cholesterol	mg	8
VITAMINS		
Vitamin A	mcg RE	350.00
Vitamin D	mcg	5.00
Vitamin E	mg TE	3.00
Vitamin C	mg	36.00
Vitamin B1	mg	0.50
Vitamin B2	mg	0.30
Niacin	mg	7.00
Pantothenic Acid	mg	2.50
Vitamin B6	mg	0.50
Biotin	mcg	8.00
Folic Acid	mcg	35.00
MINERALS		
Calcium	mg	500.00
Phosphorus	mg	200.00
Magnesium	mg	38.00
Zinc	mg	2.50
Sodium	mg	110.00
Iron	mg	7.80

4. Product Name:- Wellbeing Nutrition Daily Probiotics + Prebiotics

Improve Metabolism, Acidity Relief, Digestion & Gut Health

18 Billion CFU Organic Probiotics Supplement for Men & Women

Benefits:- helps relieve irritable bowel syndrome , helps regulate appetite, helps relieve constipation + diarrhea , helps with optimal digestion



Nutritional Facts		
Serving Size - 1 Tablet (3.1g)		
Servings Per Container - 21		
Nutrients	Amount Per Serving	% RDA Per Serve
Energy	0.4 kcal	(†)
Total Carbohydrates	0.06g	(†)
-Total Sugar	0.02g	(†)
<i>Lactobacillus acidophilus</i>	3 Billion CFU	(†)
<i>Lactobacillus casei</i>	3 Billion CFU	(†)
<i>Bifidobacterium lactis</i>	3 Billion CFU	(†)
<i>Bifidobacterium bifidum</i>	3 Billion CFU	(†)
<i>Lactobacillus rhamnosus</i>	3 Billion CFU	(†)
<i>Streptococcus thermophilus</i>	3 Billion CFU	(†)
Chicory Root Extract	100mg	(†)
Apple Pomace fiber	100mg	(†)
Percent Daily Values are based on ICMR Guidelines. (†) Daily Value not established.		
OTHER INGREDIENTS: Citric Acid, Sodium Bicarbonate, Green Apple Flavor, Sodium Carbonate, Melon & Peppermint Flavor, Polydextrose, Sweetener, Stevia Complex, Polydextrose (activated), Spearmint Flavor.		

5. Product Name:- Yoga Bar

Breakfast protein bar

- HEALTHY BREAKFAST PROTEIN BAR: With quinoa, oats, millet, almonds, peanuts, flax and chia seeds
- NUTTY DELIGHT: Wholegrain assorted cereal bars with a delicious, chewy texture
- ON-THE-GO BREAKFAST: Late for work? Just pack our nutrient rich nut bar in your bag and get going
- LOW FAT TREAT: Gluten-free, balanced nutrition with a mix of 8g protein, 10g fiber and omega 3
- NO PROCESSED SUGAR: Sweetened with honey, the bars are 100% natural with no preservatives

