


Name:	
Enrolment No:	

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**  
**End Semester Examination, May 2021**

**Course: Food and Nutraceuticals**  
**Semester: IV**  
**Program: BSC-FN&D**  
**Course Code: 12111**

**Time : 03 hrs.**  
**Max. Marks: 100**

**Instructions:**

**SECTION A**

S. No.	MCQs or Fill in the blanks (1.5 marks each)	30 Marks	CO
1	The term -----refers to products for oral use containing high concentrations of active principles derived from food, and provide health benefits from a preventive and/or therapeutic point of view.	1.5	CO1
2	The term “Nutraceutical” was coined from “Nutrition” & “Pharmaceutical” in 1989 by-----.	1.5	CO1
3	Fatty acids are predominantly found in -----	1.5	CO4
4	Catechins are used for neutralization of-----	1.5	CO1
5	Probiotics are used for improving -----	1.5	CO5
6	Saponins are used for -----	1.5	CO1
7	The first animal testing occurred in the late nineteenth century when Louis Pasteur administered ----- to sheep.	1.5	CO4
8	An enormous breakthrough came in 1922 when animal testing allowed for ----- to be isolated from dogs.	1.5	CO1
9	The 1950s saw animal testing aiding in the development of -----	1.5	CO4
10	The -----tests provide data on efficacy and safety of a new compound	1.5	CO1
11	Omega 3 PUFA are Nonessential fatty acids. True or false	1.5	CO1
12	Define Dietary supplements.	1.5	CO5
13	Give example of a yeast and bacteria having nutraceutical benefits.	1.5	CO5
14	Give 3 examples of osteogenetic nutraceutical	1.5	CO1
15	Lutein belongs to which class	1.5	CO5
16	Food that contain EPA and DHA in high concentration	1.5	CO5

17	Scientific name of curcumin	1.5	CO1
18	Active constituent present in pine apple	1.5	CO5
19	Milk proteins specifically present in milk	1.5	CO1
20	Cashew's provide nearly .....% of RDA of copper.	1.5	CO5
<b>SECTION B 20 marks 4 questions 5 marks each</b>			
Q	Short Answer Type Question (5 marks each) Scan and Upload 4 questions 5 marks each	20 Marks	CO
1	Write the applications of Nutraceuticals in management of cardiovascular diseases with five specific examples of nutraceuticals?	5	CO3
2	Laboratory two rodent mammals used in drug development?	5	CO4
3	Write down about status of Natural Health Products in India. Give five examples of it.	5	CO1
4	Justify why nutraceuticals are better than drugs?	5	CO2
<b>SECTION C 30 marks</b>			
Q	<b>Two case studies 15 marks each subsections</b>	<b>30 Marks</b>	<b>CO</b>
1	Case Study 1 A. Obesity is a common chronic disease and a major underline reason for metabolic syndrome which arises when there is an imbalance between energy intake and energy expenditure. Some components widely used as nutraceuticals in obesity are curcumin, bottle guard, black gram, green tea, etc.? <b>Comment on the different cytokines secretion after these nutraceuticals are taken by the patients and how it effects the obesity?</b> B. Diabetes is a metabolic syndrome where a person suffers from high blood glucose. It is caused due to lack of insulin production or the body cells do not respond properly to insulin or both. Some nutraceuticals used to treat and prevent diabetes are Emblica officinalis, fenugreek, green tea, etc. It also includes anti-oxidant vitamins like vitamin C and E and minerals like magnesium and chromium Write the different mechanisms of these nutraceuticals for management of Diabetes? Comment on the Safety and nutritional assessment of nutraceuticals used to treat and prevent diabetes?	15	CO3
2	a) Classify nutraceuticals on the chemical nature? (5) b) Explain oats as a functional food? (5) c) Explain the benefits of green salad? (5)	15	CO2
<b>SECTION- D 20 marks</b>			
Q	Long Answer type Questions Scan and Upload (10 marks each)	20 Marks	CO
1	Describe Nutraceutical Formulations and their assessment with respect to bioavailability and bioequivalence?	10	CO5
2	What are the probiotics? Explain the mechanism of action of probiotics? Bioactive molecules generated by probiotics having beneficial effect on host health.	10	CO4