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VEER NARMAD SOUTH GUJARAT UNIVERSITY

University Campus, Udhna-Magdalla Road, SURAT - 395 007, Gujarat, India.

વીર નર્મદ દક્ષિણ ગુજરાત યુનિવર્સિટી

યુનિવર્સિટી કેમ્પસ, ઉદ્ધના-મગદલા રોડ, સુરત - ૩૯૫ ૦૦૭, ગુજરાત, ભારત.

Tel : +91 - 261 - 2227141 to 2227146, Toll Free : 1800 2333 011, Digital Helpline No.- 0261 2388888

E-mail : info@vnsgu.ac.in, Website : www.vnsgu.ac.in

-: પરિપત્ર :-

યુનિવર્સિટી સંલગ્ન વિજ્ઞાન વિદ્યાશાખા હેઠળની તમામ કોલેજોનાં આચાર્યશ્રીઓને જણાવવાનું કે, શૈક્ષણિક વર્ષ ૨૦૨૫-૨૬ થી અમલમાં આવનાર B.Sc. Botany Sem.-5 SEC (Balanced Diet) નો અભ્યાસક્રમ વનસ્પતિશાસ્ત્ર વિષયની અભ્યાસ સમિતિ વતી ચેરમેનશ્રીએ મંજૂર કરી વિજ્ઞાન વિદ્યાશાખાને કરેલ ભલામણ વિજ્ઞાન વિદ્યાશાખાનાં અધ્યક્ષશ્રીએ વિદ્યાશાખા વતી મંજૂર કરી એકેડેમિક કાઉન્સિલને કરેલ ભલામણને એકેડેમિક કાઉન્સિલની તા.૨૪/૧૨/૨૦૨૪ની સભાનાં ઠરાવ ક્રમાંક:૩૫૩ થી માન. કુલપતિશ્રીને આપેલ સત્તા અંતર્ગત માનનીય કુલપતિશ્રી દ્વારા મંજૂર કરેલ છે. જેનો અમલ કરવા આથી જાણ કરવામાં આવે છે.

બિડાણ: ઉપર મુજબ

ક્રમાંક:ઓથો./પરિપત્ર/સિલેબસ/૧૫૭૧૬/૨૦૨૫

તા.૨૧-૦૬-૨૦૨૫

W. K. Patel
કુલસચિવ

પ્રતિ,

- ૧) યુનિવર્સિટી સંલગ્ન વિજ્ઞાન વિદ્યાશાખા હેઠળની તમામ કોલેજોનાં આચાર્યશ્રીઓ.
.....આપશ્રીની કોલેજના સંબંધિત શિક્ષકોને જાણ કરી અમલ કરવા સારું.
- ૨) ડીનશ્રી, વિજ્ઞાન વિદ્યાશાખા.
- ૩) પરીક્ષા નિયામકશ્રી, પરીક્ષા વિભાગ, વીર નર્મદ દ. ગુ. યુનિવર્સિટી, સુરત.
.....તરફ જાણ તેમજ અમલ સારું.



VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT
SYLLABUS FOR B.Sc. SEMESTER - V
FRAMED ACCORDING TO
NATIONAL EDUCATION POLICY (NEP) 2020 (Effective from June 2025)
BOTANY
BOT-SEC-501 (BALANCED DIET)

SEC	Balanced Diet	(2 Credits)
	<p>Course outcome</p> <ul style="list-style-type: none"> • Understand the principles of human nutrition, including macronutrients, micronutrients, and their role in metabolism. • Learn about the biochemical processes involved in digestion, absorption, and metabolism of nutrients. • Demonstrate understanding of nutritional needs at different life stages (infancy, childhood, adolescence, adulthood, pregnancy, and aging). • Develop skills to assess the nutritional status of individuals or groups using various tools (e.g., dietary recalls, food diaries, anthropometric measurements, etc.). • Create personalized diet plans for individuals with different health conditions, such as diabetes, hypertension, or obesity. • Apply the principles of dietetics in the formulation of therapeutic diets for disease management. 	30 hours
UNIT I	<p>Introduction to Nutrition and the Concept of a Balanced Diet</p> <ul style="list-style-type: none"> • Definition and Importance of Nutrition <ul style="list-style-type: none"> ○ Understanding nutrients: Macronutrients and Micronutrients ○ Role of food in health ○ Factors influencing dietary requirements (age, gender, activity level, etc.) • What is a Balanced Diet? <ul style="list-style-type: none"> ○ Components of a balanced diet: Carbohydrates, proteins, fats, vitamins, minerals, water, and fiber ○ Recommended dietary intake (RDI) guidelines ○ Food Pyramid and Food Plate Models <p>Macronutrients and Their Role in Health</p> <ul style="list-style-type: none"> • Carbohydrates <ul style="list-style-type: none"> ○ Types of carbohydrates: Simple vs. complex ○ Sources of carbohydrates and their benefits ○ Energy metabolism and glycemic index • Proteins 	15 Hours

	<ul style="list-style-type: none"> ○ Types of proteins: Complete and incomplete proteins ○ Sources of protein and their functions ○ Role in growth, repair, and immune function ● Fats <ul style="list-style-type: none"> ○ Types of fats: Saturated, unsaturated, and trans fats ○ Role of fats in energy storage, insulation, and nutrient absorption ○ Healthy fats vs. unhealthy fats and their impact on health 	
UNIT II	<p>Micronutrients, Hydration, Dietary Fiber and food preservation</p> <ul style="list-style-type: none"> ● Vitamins <ul style="list-style-type: none"> ○ Fat-soluble vs. water-soluble vitamins ○ Functions, sources, and deficiencies of major vitamins (A, D, E, K, C, B-complex) ● Minerals <ul style="list-style-type: none"> ○ Major and trace minerals (e.g., calcium, iron, magnesium, zinc, etc.) ○ Role in bone health, blood pressure regulation, and immune function ● Hydration <ul style="list-style-type: none"> ○ Importance of water and electrolytes in body functions ○ Daily water intake recommendations ● Dietary Fiber <ul style="list-style-type: none"> ○ Role in digestion and gut health ○ Soluble vs. insoluble fiber ○ Sources and benefits of fiber ● Dietary Guidelines for Different Life Stages <ul style="list-style-type: none"> ○ Children, adults, elderly, pregnant women, and athletes ● Food Preservation <ul style="list-style-type: none"> ○ Definition ○ Importance ○ Methods ○ Reason of food spoilage 	15 Hours

References:

1. "Textbook of Nutrition and Dietetics" by S. V. S. Rana
2. "Nutrition and Dietetics" by Shubhangini A. Joshi
3. "Fundamentals of Foods, Nutrition, and Diet Therapy" by S. R. Jambunathan
4. "Human Nutrition: A Health Perspective" by S. S. M. Puri
5. "Textbook of Dietetics" by Reba Kanekar
6. "Nutrition: Science and Applications" by Laura D. Stanley
7. "Understanding Nutrition" by Eleanor Noss Whitney & Sharon Rady Rolfes
8. "Nutrition for Health, Fitness & Sport" by Melvin Williams
9. "Advanced Human Nutrition" by Rajiv Grover & Judy A. Driskell

10. "The Science and Fine Art of Food and Nutrition" by Arnold Ehret
11. "Dietary Reference Intakes: The Essential Guide to Nutrient Requirements" by Institute of Medicine
12. Aahar Ane Poshan by Dr. B. C. Chhatpar
13. Poshan Ane Arogya by Dr. Shubhangi Joshi
14. Aahar Ane Poshan Vigyan by Dr. K. M. Soni
15. Sampurn Aahar Ane Poshan by Dr. Ashok Kumar
16. Poshan Vigyan Ane Aahar Yojana by Dr. G. H. Shah
17. Aahar Ane Swasthya by Dr. H. K. Patel