

# BSc\_FoodTechnology

Title of the Course	Health and Wellness
Course Code	AEC-1 [T]

	Part A											
Year	1st	Semester	1st	Credits	L	Т	Р	С				
rear	131	Semester	131	Ciedita	2	0	0	2				
Course Type	Theory only	1										
Course Category	Ability Enha	incement Courses										
Pre-Requisite/s	knowledge implications	of concept and nature of health	h, wellness and its various	Co-Requisite/s		knowledge of concept and nature of health, wellness and its various implications						
Course Outcomes & Bloom's Level	CO2- To int CO3- To int	roduce the learners to the rela- roduce learners to health beha	tion between mind-body an avior and promotion of huma	and its relevance in daily life. (BL1-Rememl d its relevance.(BL2-Understand) an strengths for well-being. (BL3-Apply) of healthy behavior(BL4-Analyze)	ber)							
Coures Elements	Skill Develor Entreprener Employabili Professson: Gender  Human Valu Environmer	urship X ty ✓ al Ethics X ues ✓	SDG (Goals)	SDG1(No poverty) SDG2(Zero hunger) SDG3(Good health and well-being) SDG12(Responsible consuption and produ	ction)							

### Part B

Modules	Contents	Pedagogy	Hours
1	INTRODUCTION TO HEALTH & WELLNESS -Definition of health- WHO definition; Importance of health in everyday life;Components of health- physical, social, mental, spiritual and its relevance	Lecture method	5
2	Concept of wellness;Mental Health & wellness Determinants of health behaviours Using the mass media for health promotion	Lecture method, quiz, seminar	8
3	MIND – BODY AND WELL-BEING- Mind- Body connection in health- concept and relation; pt and relation Implications of mind-body connections; Wellbeing- why it matters?	Lecture method, quiz, seminar, group discussion	8
4	Digital wellbeing; Understanding health beliefs, and perspectives of indigenous people pertaining to Assam and North East India	adudi/video lectures, seminars, expert lectures	6
5	Promoting Human strengths and life enhancement: Classification of human strengths and virtues; cultivating inner strengths: Hope and optimism	adudi/video lectures, seminars, expert lectures	6

# Part D(Marks Distribution)

	Theory											
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation							
100	40	60	18	40								
			Practical									
Total Marks	Minimum Passing Marks	Minimum Passing Marks External Evaluation		Internal Evaluation	Min. Internal Evaluation							

### Part E

Books	Carr, A. (2004). Positive Psychology: The science of happiness and human strength. UK: Routledge.
Articles	
References Books	Forshaw, M. (2003). Advanced psychology: Health psychology. London: Hodder and Stoughton.
MOOC Courses	
Videos	

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COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	1	1	2	1	-	1	-	1	-	1	-	1	1	1
CO2	2	1	1	2	1	1	-	2	-	-	-	-	2	2	2
CO3	2	2	2	2	-	1	-	-	1	1	-	-	3	2	3
CO4	3	2	2	2	1	-	1	-	-	-	-	-	3	2	3
CO5	3	3	2	3	-	-	1	2	1	-	1	-	3	2	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



# Bsc\_Microbiology

Title of the Course	Hindi I
Course Code	BSMB AECII (T)

			Part A								
Year	1st Semester		2nd	Credits	L	Т	Р	С			
Teal	151	Seniester	Zilu	Credits	2	0	0	2			
Course Type	Theory only										
Course Category	Foundation cor	е									
Pre-Requisite/s	हिंदी भाषा का मूल	न गया ज्ञान होना आवश्यक है		Co-Requisite/s							
Course Outcomes & Bloom's Level	CO2- ज्ञान को अ	र्थपर्णता देने में भाषा एक सशक्त आधार है।	(BI 2-Understand)	ाध्यम से संम्भव है। पाठ्यक्रम में व्याकरण ,एवं लेखन ।मझकर भावानुभूति कर सकें। (BL3-Apply)	परम्परा का	बोध करना (B	BL1-Remem	ber)			
Coures Elements	Skill Development ✓ Entrepreneurship × Employability ✓ Professsonal Ethics × Gender ✓ Human Values ✓ Environment ×										

Part B

Modules	Contents	Pedagogy					
I	स्वतंत्रता पुकारती (कविता)जयशंकर प्रसाद पुष्प की अभिलाषा (कविता) माखनलाल चतुर्वेदी वाक्य संरचना और अशुद्धियाँ (संकलित )	lecture method, group discussion, story telling,	8				
Ш	एक थे राजा भोज { निबंध }त्रिभुवननाथ शुक्त २ पर्यायवाची , विलोम , एकार्थी ,अनेकार्थी एवं शब्दयुग्म शब्द (संकलित ) ३ वह तोड़ती पत्थर -सूर्यकान्त त्रिपाठी निराला ४ वर्ण -विचार (स्वर ,व्यंजन ,वर्गीकरण ,उच्चारण स्थान }	lecture method, group discussion, story telling, role play	6				
Ш	१ भगवान् बुद्ध) { निबंध }स्वामी विवेकानंद २ लोकतंत्र एक धर्म है{ निबंधडॉ सर्वपल्ली राधा कृष्णन ३ पल्लवन	lecture method, group discussion, story telling, role play	6				
IV	अफसर{ निबंध -शरद जोशी २ संक्षेपण {संकलित } ३ नारीत्व का अभिशाप ४ विराम -चिह्न {संकलित }	lecture method, group discussion, story telling, role play	6				
v	नैतिक मूल्य परिचय एवं वर्गीकरण्( आलेख }डॉ शशि राय २ अंतर्ज्ञान और नैतिक जीवन(लेखडॉ सर्वपल्ली राधाक ३ अप्प दीपोभव (लेख } -स्वामी श्रद्धा	lecture method, group discussion, story telling, role play	6				

Part D(Marks Distribution)

	Theory											
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation							
100	40	40	12	60								
			Practical									
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation							
0	0	0	0	0	0							

Part E

Books	हिंदी भाषा और नैतिक मूल्य : मध्य प्रदेश शासन
Articles	https://www.cvs.edu.in/upload/IMG-20200323-WA0003.pdf
References Books	
MOOC Courses	https://onlinecourses.swayam2.ac.in/cec20_lg05/preview
Videos	https://onlinecourses.swayam2.ac.in/cec20_lg05/preview

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	3	1	2	2	-	-	-	-	-	-	-	-	2	-
CO2	2	3	1	2	2	-	-	-	-	-	-	-	-	2	-
CO3	2	2	1	1	1	-	-	-	-	-	-	-	-	2	-
CO4	1	2	-	-	-	-	-	-	-	-	-	-	-	1	-
CO5	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



# Bsc\_Microbiology

Title of the Course Disaster N	ter Management
Course Code BSMB VA	3 VACIII (T)

			Part A					
Year	2nd	Semester	3rd	Credits	L	Т	Р	С
Teal	Zild	Semester	Sid	Credits	2	0	0	2
Course Type	Theory only							
Course Category	Foundation core							
Pre-Requisite/s	To be familiar with the basics of natural disasters as well as anthropogenic factors and various approaches for disaster managements.							
Course Outcomes & Bloom's Level	CO1- To learn types of disasters and its profile in India (BL1-Remember) CO2- To understand the causes and impacts of disasters on environment and related case studies of Global and National disasters.(BL2-Understand) CO3- To learn about risk reduction approaches of disasters with safety issues in mitigating industrial disasters.(BL3-Apply) CO4- To understand the concept of Disaster Management Cycle and its Risk Reduction Measures(BL4-Analyze) CO5- To apply the National Acts and policies for mitigating disasters, Role of Army, Police, Community, Corporate, Media etc. for post Disaster Management.(BL5-Evaluate)							
Coures Elements	Skill Development X Entrepreneurship X Entrepreneurship X Employability ✓ Professonal Ethics ✓ Gender ✓ Human Values X Environment ✓  SDG (Goals)  SDG (Goals)  SDG (Goals)							

#### Part B

Modules	Contents	Pedagogy	Hours
1	Concepts and definitions (Disaster, Hazard, Vulnerability, Resilience, Risks, Capacity buildings) Factors of disasters, Global trends in disaster: urban disasters, pandemics, complex emergencies, Climate change	lecture method, collaborative learning, group dicussions, field visit,	8
2	Classification of disaster: geophysical, hydrological, climatological, meteorological, biological and technological or man-made hazards. Causes, Impacts including social, economic, political, environmental, health, psychosocial, etc. Differential impacts- in terms of caste, class, gender, age, location, disability.	lecture method, collaborative learning, group dicussions, field visit,case studies	8
3	Disaster management cycle – Phases, Culture of safety, prevention, mitigation and preparedness community based DRR, Structural- nonstructural measures, Roles and responsibilities of community, Panchayati Raj Institutions/	lecture method, collaborative learning, group dicussions, field visit,case studies	8
4	Factors affecting Vulnerabilities, differential impacts, impact of Development projects such as dams, embankments, changes in Land-use etc. Climate Change Adaptation. Relevance of indigenous knowledge, appropriate technology and local resources	lecture method, collaborative learning, group dicussions, field visit,case studies	8
5	Disaster Management Indian scenario, India's vulnerability profile, Disaster Management Act 2005 and Policy guidelines, Environmental Legislation for Disaster Risk Management in India. Role of information technology in protecting environment and health. Role of NGOs Cases Studies: Bhopal Gas Disaster, Gujarat Earth Quake, Orissa Super-cyclone, South India Tsunami, Bihar floods, Plague Surat, COVID-19 pandemic	lecture method, collaborative learning, group dicussions, field visit, case studies	8

#### Part D(Marks Distribution)

Theory							
Total Marks	Total Marks Minimum Passing Marks External Evaluation Min. External Evaluation Internal Evaluation Min. Internal Evaluation						
100	40	40	12	60			
	Practical						
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation		
0	0	0	0	0	0		

# Part E

Books	• Singhal J.P. 'Disaster Management'', Laxmi Publications, 2010. ISBN-10: 9380386427 ISBN-13: 978-9380386423 • Tushar Bhattacharya, "Disaster Science and Management", McGraw Hill India Education Pvt. Ltd., 2012. ISBN-10: 1259007367, ISBN-13: 978-1259007367] • Gupta Anil K, Sreeja S. Nair. Environmental Knowledge for Disaster Risk Management, NIDM, New Delhi, 2011 • Kapur Anu Vulnerable India: A Geographical Study of Disasters, IIAS and Sage Publishers, New Delhi, 2010. • Kapur, Anu & others, 2005: Disasters in India Studies of grim reality, Rawat Publishers, Jaipur
Articles	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3105552/
References Books	Coppola P Damon, 2007. Introduction to International Disaster Management, Carter, Nick 1991. Disaster Management: A Disaster Manager's Handbook. • Cuny, F. 1983. Development and Disasters, Oxford University Press. Document on World Summit on Sustainable Development 2002. • Govt. of India: Disaster Management Act 2005, Government of India, 2009. National Disaster Management Policy. • Disaster Management Guidelines. GOI-UNDP Disaster Kaeduction Programme (2009-2012. • Disaster Medical Systems Guidelines. Emergency Medical Services Authority, State of California, EMSA no.214, June 2003. • National Institute of Disaster Management • National Disaster Management Authority. • http://nidm.gov.in, http://ekdrm.net , http://www.emdat.be , http://www.nws.noaa.gov , http://pubs.usgs.gov , http://pubs.usgs.gov ).
MOOC Courses	https://nptel.ac.in/courses/124107010
Videos	https://nptel.ac.in/courses/124107010

	Course / Industrial Mann														
COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	2	-	-	-	-	1	2	-	-	-	-	1	-	-
CO2	1	2	-	-	-	-	1	2	-	-	-	-	1	-	-
CO3	1	2	-	-	-	-	1	2	-	-	-	-	-	-	-
CO4	1	2	-	-	-	-	1	2	-	-	-	-	-	2	-
CO5	1	2	-	-	-	-	1	2	-	-	-	-	-	-	3
CO6	1	2	-	-	-	-	1	2	-	-	-	-	-	-	3



# Bsc\_Microbiology

Title of the Course	Genetic Engineering, Tools and applications
Course Code	BSMB401(T)

			Part A					
Year	2nd	Semester	4th	Credits	L	Т	Р	С
lear	ZIIQ	Gemester	401	Oreuns	3	0	1	4
Course Type	Embedded the	ory and lab						
Course Category	Discipline Core	•						
Pre-Requisite/s	Student must h information	nave the detailed knowledge of G	ene expression and hereditary	Co-Requisite/s	Detailed study of genomics, proteomics and metabolomics tool			
Course Outcomes & Bloom's Level	CO1- To remember the role of all the enzymes used in the DNA editing(BL1-Remember) CO2- To understand the method of creating new molecules such as DNA & RNA(BL2-Understand) CO3- To understand the importance Nucleic acid editing tools(BL2-Understand) CO4- To evaluate the applications of in various fields such as research, Agriculture, Pharmaceutical industries(BL5-Evaluate) CO5- To apply the understanding of creation of new DNA, RNA & Protein and its use in different Fields (BL3-Apply)							
Coures Elements	Skill Developm Entrepreneursh Employability  Professsonal E Gender  Human Values Environment ×	nip ✓ / ithics ✓ ×	SDG (Goals)	SDG4(Quality education)				

#### Part B

Modules	Contents	Pedagogy	Hours
1	Introduction to gene cloning and its necessity: DNA modifying enzymes: Restriction enzymes (RE)- structure function and types, polymerase, kinases, ligase, alkaline phosphatase, exonuclease etc Cloning methods. linkers and adaptors.	Tutorials, Collaborative, Demonstrations, Project methods Experiments,	8
2	Methods of introduction of DNA into living cells, E.coli, plant and animal cells, Genetic transformation in plants:Agrobacteriun mediated transformation in plants,structure and features of Ti and Ri plasmids.Genomic libraries and cDNA libraries.	Tutorials, Collaborative, Demonstrations, Project methods Experiments,	8
3	Cloning vectors: Plasmids and Bacteriophages, Phagemids, Cosmids, Artificial chromosomes (BAC and YAC) for E.coli, yeast. Strategies for identification of recombinant clones containing cloned genes: Nucleic acid hybridization, immune screening etc. Expression vectors for E.coli and	Tutorials, Collaborative, Demonstrations, Project methods Experiments,	8
4	Tools for RDT: Restriction mapping, Southern and northern blotting, Forensic application of biotechnology: DNA fingerprinting and its applications, forensic medicine Molecular Pharming: Application	Tutorials, Collaborative, Demonstrations, Project methods Experiments,	8
5	Applications of RDT, Production of recombinant protein (Insulin, Growth hormone), production of Recombinant vaccine. Golden rice, Artifical seed production, biofertilizers and biopesticide production GM crops and GM food	Tutorials, Collaborative, Demonstrations, Project methods Experiments,	8

#### Part C

Modules	Title	Indicative-ABCA/PBL/ Experiments/Field work/ Internships	Bloom's Level	Hours
1	Preparation of stock and buffer solutions for DNA isolation	Experiments	BL3-Apply	2
2	Isolation of DNA from yeast cells.	Experiments	BL3-Apply	2
3	Isolation of DNA from Plant cell.	Experiments	BL3-Apply	2
4	Isolation of plasmid DNA	Experiments	BL3-Apply	2
5	Agarose gel electrophoresis of Genomic DNA	Experiments	BL4-Analyze	2
6	Isolation of RNA	Experiments	BL4-Analyze	2
7	Quantification of DNA by spectrophotometer(260/280nm)	Experiments	BL4-Analyze	2
8	To isolate the Auxotrophic mutants from the mixed culture sample of Microorganism	PBL	BL5-Evaluate	3 days

# Part D(Marks Distribution)

Theory							
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation		
100	40	60	18	40			
	Practical						
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation		
100	50	60	30	40	20		

#### Part E

	Fall E		
Books	Books TA Brown, Gene cloning 4 edition		
Articles https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3078015/			
References Books	James D watson.Molecular Biology Of gene, 4 edition		
MOOC Courses	https://nptel.ac.in/courses/102103074		
Videos	https://nptel.ac.in/courses/102103074		

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	2	3	-	-	1	-	-	-	-	-	-	1	1	2
CO2	1	2	3	-	-	3	2	-	-	-	-	-	2	-	-
CO3	1	2	3	-	-	1	1	-	-	-	-	-	-	2	1
CO4	1	2	3	-	-	1	-	-	-	-	-	-	2	-	3
CO5	1	2	3	-	-	2	-	-	-	-	-	-	2	-	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



# BSc\_FoodTechnology

Title of the Course	India in 21st Centuary [T]
Course Code	VAC-II [T]

			Part A	A				
Year	1st	Semester	2nd	Credits	L	Т	Р	С
					2	00	00	2
Course Type	Theory only							
Course Category	Ability Enhan	cement Courses						
Pre-Requisite/s	1. *Understanding of Sociological Concepts*: A foundational knowledge of sociological concepts is essential to grasp the composition of Indian society discussed in Unit I. This includes understanding social institutions, cultural environments, and threats to national integration. 2. *Historical Background*: Familiarity with the history of India, particularly the Indian Freedom Movement, is crucial for comprehending Unit II. Knowledge of events such as the Revolt of 1857, the emergence of nationalism, and the various phases of the freedom struggle provides context for understanding the birth of the Indian nation-state. 3. *Awareness of Political Movements*: A basic understanding of political movements in India, particularly those led by figures like Gandhi, is necessary for Unit III. Familiarity with concepts like non-cooperation, civil disobedience, and the Quit India movement aids in analyzing the dynamics of Indian freedom and partition. 4. *Knowledge of Post-Independence Era*: Understanding the phases of nation-building since independence is vital for Unit IV. This includes awareness of the planned progress era, populist policies, and the paradigm shift towards liberalization and globalization. Knowledge of responses from different societal groups and regions enriches the understanding of India's post-independence journey. 5. *Global Awareness*: Unit V delves into global concerns such as environmental issues, globalization, and movements for democracy and sustainability. A broad understanding of global trends and their impact on nations is necessary to engage with this content effectively.			Co-Requisite/s	Understauthreats to sociologic symbolic of societa Knowledg struggle fi developm Indian sociologic including leaders, is of colonia truggle fi "Familiari Understau post-inde economic Awarenes reservatic insights in Perspecti areas suc geopolitic global cot change, ii enables s versa.	"Foundational Understanding of Sociological Concepts": - Understanding social institutions, cultural environments, and threats to national integration is fundamental Familiarity with sociological theories such as functionalism, conflict theory, and symbolic interactionism can provide a deeper comprehension of societal dynamics. 2. "Historical Context of India": - Knowledge of Indian history, including the colonial period, the struggle for independence, and post-independence developments, offers context for understanding the evolution of Indian society Understanding the socio-economic impacts of colonial rule and the transition to independence enhances insight into contemporary social issues. 3. "Understanding of Political Movements in India": - Knowledge of key figures, ideologies, and strategies of political movements in India, including those led by Gandhi, Nehru, and other prominent leaders, is essential Awareness of the socio-political context of colonial India and the role of various stakeholders in the struggle for independence enriches understanding. 4. "Familiarity with Post-Independence Developments": - Understanding the socio-economic and political changes in post-independence India, including the Nehruvian era, economic reforms, and social movements, is crucial Awareness of key policies, such as the Green Revolution, reservation system, and economic liberalization, provides insights into contemporary Indian society, 5. "Global Perspective and Awareness": - Knowledge of global trends in areas such as technology, economics, environment, and geopolitics enhances understanding of India's position in the global context Understanding global issues like climate change, international trade, and human rights movements		
Course Outcomes & Bloom's Level	CO1- 1. Students are able to define, identify and explain the process of Indian Freedom movement and development of political Institutions.(BL1-Remember) CO2- 2. Students are able to summarize and extract the time before Independence and after Independence India, (BL2-Understand) CO3- 3. Students are able to evaluate India society, Its nature and agencies of social change with reference to modernization.(BL5-Evaluate) CO4- 4. Students are able to write the historical accounts that shaped the very nature and character of 20 and 21 st century India with reference to Nation Building and constitution(BL6-Create)						and	
Coures Elements	Skill Development X Entrepreneurship X Employability X Professsonal Ethics X Gender ✓ Human Values ✓ Environment ✓			SDG1(No poverty) SDG3(Good health and well-being) SDG4(Quality education) SDG5(Gender equality) SDG10(Reduced inequalities) SDG12(Responsible consuption and pro SDG13(Climate action)	duction)			

## Part B

Modules	Contents	Pedagogy	Hours
1	Composition of Indian Society Society- (a) Introduction of Nature of India society and Indian nation state. (b) Major Social Institutions and Organization and threats to national integration (c) Social and Cultural Environment of India Society in 19th ,20th and 21st century.	Lectures and visual PowerPoint slides • Students read text and commentary on assigned topics as well as published research articles before the lectures • Students read cases discussed in the text-books, as well as more detailed articles. • Students participate in class discussions to crystallize the concepts	5
2	Indian Freedom Movement- emergence 1) Revolt of 1857, Rise of nationalism & Birth of Congress 2). Partition of Bengai & swadeshi movement, Home rule movement Round table conferences 3) Revolutionary movements, Gandhian movements (i) Non-Cooperation (ii) Civil Disobedience (iii) Quit India movement	Lectures and visual PowerPoint slides • Students read text and commentary on assigned topics as well as published research articles before the lectures • Students read cases discussed in the text-books, as well as more detailed articles. • Students participate in class discussions to crystallize the concepts	5
3	Indian freedom and Partition- 1.) Communism – Rise & spread (2.) Muslim league & its politics , Hindu communism. (3) India's partition & independence References	Lectures and visual PowerPoint slides • Students read text and commentary on assigned topics as well as published research articles before the lectures • Students read cases discussed in the text-books, as well as more detailed articles. • Students participate in class discussions to crystallize the concepts	5
4	Nation building Since Independence- 3 stages of making of the Indian Nation state: - Era of planned progress. (1951-1971) Period of Populist policies and programmers (1971 to 1992) Period of paradigm shift towards liberalization and globalization (since 1992). Responses of various classes, communities and regions.	Lectures and visual PowerPoint slides • Students read text and commentary on assigned topics as well as published research articles before the lectures • Students read cases discussed in the text-books, as well as more detailed articles. • Students participate in class discussions to crystallize the concepts	5
5	Nation Building and Global Concern- a. Environmental concerns in 21st century b. Question of Globalization and its Impact c. Global Movement for Democracy and sustainability	Lectures and visual PowerPoint slides • Students read text and commentary on assigned topics as well as published research articles before the lectures • Students read cases discussed in the text-books, as well as more detailed articles. • Students participate in class discussions to crystallize the concepts	4

### Part D(Marks Distribution)

	Theory						
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation		
100	40	60	18	40			
	Practical						
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation		
00	00	00		00			

### Part E

Books	1. Bose, N.K. 1967, Culture and Society in India. Bombay: Asia Publishing House 2. Dube, S.C. 1990, Indian village.(New Delhi: National Book Trust.) 3. Percival Spear: History of Indian Society, Penguin, 1966. 4. Uberoi, Patrica: Family, kinship and Marriage, New Delhi: oxford University Press, 1995, PP 50 to 73, 416 to 451 5. Gandhi, M K: Removal of Univorbability, Navievan Publishina House, Ahmadabad, 1954
Articles	
References Books	1. A Nagraj, 1998, Jeevan Vidya ek Parichay, Divya Path Sansthan, Amarkantak
MOOC Courses	
Videos	1.https://www.youtube.com/watch?v=i8N6YRTJsDk 2. https://youtu.be/MWsT7x3qd3E 3.https://www.youtube.com/watch?v=pQghqJSUAK4&list= 4.https://youtu.be/9BEU8A_JZPU 5.https://youtu.be/pPsKQwaZ4dg
	https://hdr.undp.org/

	Course / Industrial														
COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
CO2	-	-	-	-	-	1	-	-	2	1	-	-	1	1	1
CO3	-	-	-	-	-	2	2	-	-	-	-	-	2	1	1
CO4	-	-	-	-	-	1	-	-	-	-	-	-	2	1	2
CO5	-	-	-	-	-	-	-	-	-	-	-	-	2	1	2
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



# BSc\_FoodTechnology

Title of the Course	Human Nutrition [T]
Course Code	VAC-III [T]

	Part A								
Year	2nd	Semester	3rd	Credits	L	T	Р	С	
real	Ziid	Semester	Sid	Orealis	4	0	0	4	
Course Type	Theory or	nly							
Course Category	Discipline	Core							
Pre-Requisite/s	Student n	nust have studied Food semester	d Chemistry in	Co-Requisite/s		nolecules (Carbohyd etween diet and hea	rates, proteins and fa th	ts) present in food	
Course Outcomes & Bloom's Level	CO1- To remember the basic nutrients present in our daily dietary food like carbs, proteins, lipids, minerals, vitamins, etc(BL1-Remember) CO2- To understand the core principles and requirements of nutrients for a healthy body(BL2-Understand) CO3- To provide the students a specialized knowledge and understanding in the field of food nutrition to creation of new foods which enhances our health.(BL3-Apply) CO4- To apply the subject knowledge in future perspectives i.e. such as interpretation of nutrient composition of foods(BL4-Analyze) CO5- To evaluate the scientific research on nutrition, and their role in better human health(BL5-Evaluate)							-Apply)	
Coures Elements	Skill Development X Entrepreneurship X Employability ✓ Professsonal Ethics X Gender ✓ Human Values X Environment X  SDG (Goals)  SDG3(Good health and well-being)								

#### Part B

Modules	Contents	Pedagogy	Hours
1	Introduction to Food and Nutrition: Basic terms used in study of food and nutrition, Understanding relationship between food, nutrition and health.	Lecture method, Ice Breaking session, Review Summarizing, Tutorials sessions	09
2	Balanced Diet: Functions of foodphysiological, psychological and social. Concept of Balanced Diet, Food Groups, Food Pyramid, Food Exchange List, Principles of Meal Planning, factors influencing Meal planning	Lecture method, Quiz, Illustrate with analogies, Interactive videos	09
3	Nutrients: Classification, digestion, absorption, functions, dietary sources, RDA, clinical manifestations of deficiency and excess of the following in brief: Energy, Carbohydrates, lipids and proteins, Fat soluble vitamins-A, D, E and K, Water soluble vitamins-B-complex vitamins& Vitamin C, Minerals- calcium, iron, iodine, fluorine, sodium, potassium, magnesium & phosphorus	lecture method, Summarizing, Quiz, Tutorials sessions, Expert Lecture	10
4	Methods of Cooking: Dry, moist, frying and microwave cooking, Advantages, disadvantages and the effect of various methods of cooking on foods.	Audio/Video clips, group discussion, lecture with ppt, quiz	10
5	Nutrition Improvement of Foods: Nutrient losses in cooking and enhancing the nutritional quality of foods.	Audio/Video clips, group discussion, lecture with ppt, quiz	09

# Part D(Marks Distribution)

	Theory						
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation		
100	40	40	12	60	0		
			Practical				
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation		
	0						

#### Part E

Tart						
Books	Agarwal, A., Udipi, S.A. and Agravāla, P. (2022) Textbook of human nutrition. New Delhi: Jaypee Brothers Medical Publishers.					
Articles	https://www.news-medical.net/condition/Diet-Nutrition					
References Books	Agarwal, A., Udipi, S.A. and Agravāla, P. (2022) Textbook of human nutrition. New Delhi: Jaypee Brothers Medical Publishers.					
MOOC Courses	https://nptel.ac.in/courses/126104004					
Videos	https://www.youtube.com/watch?v=kM9PRu-OiRc&t=2s					

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	1	1	1	1	-	1	-	1	1	-	-	3	1	1
CO2	3	1	1	1	-	1	-	1	1	1	-	-	3	1	1
CO3	3	2	2	2	1	1	1	1	1	1	-	-	3	1	2
CO4	3	2	2	2	1	1	1	-	-	1	-	-	3	1	2
CO5	3	2	2	2	1	1	1	1	1	1	-	-	3	2	2
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



### BSc\_PCM

Title of the Course	India in 21st centuary
Course Code	VAC0101[T]

			Part A	A				
Year	1st	Semester	1st	Credits	L	Т	Р	С
					2	00	00	2
Course Type	Theory only							
Course Category	Skill Enhance	ment Courses						
Pre-Requisite/s	1. *Understanding of Sociological Concepts*: A foundational knowledge of sociological concepts is essential to grasp the composition of Indian society discussed in Unit I. This includes understanding social institutions, cultural environments, and threats to national integration. 2. *Historical Background*: Familiarity with the history of India, particularly the Indian Freedom Movement, is crucial for comprehending Unit II. Knowledge of events such as the Revolt of 1857, the emergence of nationalism, and the various phases of the freedom struggle provides context for understanding the birth of the Indian nation-state. 3. *Awareness of Political Movements*: A basic understanding of political movements in India, particularly those led by figures like Gandhi, is necessary for Unit III. Familiarity with concepts like non-cooperation, civil disobedience, and the Quit India movement aids in analyzing the dynamics of Indian freedom and partition. 4. *Knowledge of Post-Independence independence is vital for Unit IV. This includes awareness of the planned progress era, populist policies, and the paradigm shift towards liberalization and globalization. Knowledge of responses from different societal groups and regions enriches the understanding of India's post-independence jurney, 5. *Global Awareness*: Unit V delves into global concerns such as environmental issues, globalization, and movements for democracy and sustainability. A broad understanding of golbal trends and their impact on nations is necessary to engage with this content effectively.			Co-Requisite/s	Understa threats to sociologic symbolic of societa Knowledg struggle f developm Indian so colonial minisight in Political including leaders, i of colonia struggle f "Familiari Understa post-inde economic Awarener reservatic insights in Perspecti areas su geopolitic global cochange, i enables s versa.	lational Understanding social institunational integrational integrational theories such a interactionism can I dynamics. 2. "Highe of Indian history or independence, ents, offers contectly. Understandle and the transition contemporary sofovements in India, and strategies of those led by Gands, and strategies of the or independence in the india and the role or independence or independence in with Post-Independing the socio-econement or independence india, in the reforms, and socios of key policies or system, and socios of key policies of se of key policies of the contemporary I we and Awareness the as technology, es enhances under ntext Understand trader, tudents to analyze	ions, cultural envi in is fundamental. In is fundamental. Functionalism, corprovide a deeper torical Context of including the color and post-independ of the fundamental of the color of th	ronments, and - Familiarity with inflict theory, and comprehension India*: - nial period, the lence g the evolution of iomic impacts of own comprehension in macts of own comprehension in the diagram of the ending of key figures, into in India, er prominent expolitical context olders in the ding. 4. nents*: - al changes in vian era, rucial Revolution, in, provides Global global trends in iment, and position in the like climate movements
Course Outcomes & Bloom's Level	CO1- 1. Students are able to define, identify and explain the process of Indian Freedom movement and development of political Institutions.(BL1-Remember) CO2- 2. Students are able to summarize and extract the time before Independence and after Independence India.(BL2-Understand) CO3- 3. Students are able to evaluate India society, Its nature and agencies of social change with reference to modernization.(BL5-Evaluate) CO4- 4. Students are able to write the historical accounts that shaped the very nature and character of 20 and 21 st century India with reference to Nation Building and constitution(BL6-Create)							and
Skill Development   Entrepreneurship X  Employability X  Coures Elements  Professsonal Ethics   Gender   Human Values   Environment X			SDG (Goals)	SDG3(Good health and well-being) SDG4(Quality education) SDG5(Gender equality) SDG10(Reduced inequalities) SDG12(Responsible consuption and pro SDG13(Climate action)	oduction)			

#### Part B

Modules	Contents	Pedagogy	Hours
1	Composition of Indian Society Society. (a) Introduction of Nature of India society and Indian nation state. (b) Major Social Institutions and Organization and threats to national integration (c) Social and Cultural Environment of India Society in 19th ,20th and 21st century.	Lectures and visual PowerPoint slides    Students read text and commentary on assigned topics as well as published research articles before the lectures    Students read cases discussed in the text-books, as well as more detailed articles.    Students participate in class discussions to crystallize the concepts	5
2	Unit II Indian Freedom Movement- emergence. 5 1) Revolt of 1857, Rise of nationalism & Birth of Congress 2). Partition of Bengal & swadeshi movement, Home rule movement Round table conferences 3) Revolutionary movements, Gandhian movements (i) Non-Cooperation (ii) Civil Disobedience (iii) Quit India movement	Lectures and visual PowerPoint slides • Students read text and commentary on assigned topics as well as published research articles before the lectures • Students read cases discussed in the text-books, as well as more detailed articles. • Students participate in class discussions to crystallize the concepts	5
3	Unit 3 Indian freedom and Partition 5 1.) Communalism – Rise & spread (11.) Muslim league & its politics , Hindu communalism . 111.) India's partition & independence References	Lectures and visual PowerPoint slides • Students read text and commentary on assigned topics as well as published research articles before the lectures • Students read cases discussed in the text-books, as well as more detailed articles. • Students participate in class discussions to crystallize the concepts	5
4	UNIT IV Nation building Since Independence 5 3 stages of making of the Indian Nation state: - 3. Era of planned progress. (1951-1971) Period of Populist policies and programmes (1971 to 1992) Period of paradigm shift towards liberalization and globalization (since 1992). Responses of various classes, communities and regions.	Lectures and visual PowerPoint slides • Students read text and commentary on assigned topics as well as published research articles before the lectures • Students read cases discussed in the text-books, as well as more detailed articles. • Students participate in class discussions to crystallize the concepts	5
5	Unit V Nation Building and Global Concern 5 a. Environmental concerns in 21st century b. Question of Globalization and its Impact c. Global Movement for Democracy and sustainability	Lectures and visual PowerPoint slides • Students read text and commentary on assigned topics as well as published research articles before the lectures • Students read cases discussed in the text-books, as well as more detailed articles. • Students participate in class discussions to crystallize the concepts	4

# Part D(Marks Distribution)

	Theory									
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
100	40	40	12	60	28					
	Practical									
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
00	00	00		00						

### Part E

1. Bose, N.K. 1967, Culture and Society in India. Bombay: Asia Publishing House 2. Dube, S.C. 1990, Indian village, (New Delhi: National Book Trust.) 3. P Indian Society, Penguin, 1966. 4. Uberoi, Tica: Family, Kinship and Marriage, New Delhi: oxford University Press, 1995, PP 50 to 73, 416 to 451 5. of Untouchability, Navjeevan Publishing House, Ahmadabad, 1954					
Articles					
References Books	1. A Nagraj, 1998, Jeevan Vidya ek Parichay, Divya Path Sansthan, Amarkantak.				
MOOC Courses					
Videos	1.https://www.youtube.com/watch?v=i8N6YRTJsDk 2. https://youtu.be/MWsT7x3qd3E 3.https://www.youtube.com/watch?v=pQghqJSUAK4&list= 4.https://youtu.be/9BEU8A_JZPU 5.https://youtu.be/pPsKQwaZ4dg				

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COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
CO2	-	-	-	-	-	1	-	-	2	-	-	-	1	1	1
CO3	-	-	-	-	-	2	2	-	-	-	-	-	2	1	1
CO4	-	-	-	-	-	1	-	-	-	-	-	-	2	1	2
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



# BSc\_ComputerScience

Title of the Course	India in 21st centuary
Course Code	VAC0101[T]

			Part	A				
Year	1st Semeste	er 1st		Credits	L	Т	Р	С
real	15t Semeste	130		Oreuns	2	0	0	2
Course Type	Theory only							
Course Category	Add-On Courses							
Pre-Requisite/s	"Understanding of Sociologic knowledge of sociological concomposition of Indian society di understanding social institutions to national integration. 2. "Histo the history of India, particularly rucial for comprehending Unit Revolt of 1857, the emergence phases of the freedom struggle the birth of the Indian nation-state Movements." A basic understan particularly with concepts like and the Quit India movement al Indian freedom and partition. 4. Era*: Understanding the phases independence is vital for Unit IV planned progress era, populist towards liberalization and globa from different societal groups understanding of India's post-in Awareness*: Unit V delves into environmental issues, globaliza and sustainability. A broad underflectively.	epts is essential siscussed in Unit in scussed in Unit in scussed in Unit the Indian Freed II. Knowledge of of nationalism, a provides contex tate. 3. "Awarenes in the Indian Food III. Knowledge of one cooperation, one cooperation one cooperation in the III. In Indian III. Indian I	to grasp the I. This includes inments, and threats d': Familiarity with dom Movement, is fevents such as the and the various of the order of the ord	Co-Requisite/s	*Foundati Understar threats to sociologic symbolic i societal d' of Indian i independe context fo Understar the transit contempo Movemen and strate led by Gal essential. India and independe conomic including i movemen Green Re liberalizati society, 5. global trer environme position in convermen and vice v	onal Understand unding social instituational integra al theories such interactionism canamics. 2. "His instory, including sistory, including sistory, including sistory, including sistory, including the sociotion to independary social issue ts in India": - Kn gight sistory in the sistery in	iion is fundamen as functionalism in provide a deel torical Context o the colonial peri dependence de the evolution of economic impact enhances is ens. 3. "Understan owledge of key for movements in In other prominen the socio-politica is stakeholders in derstanding. 4. enters". Understan well of the province in the colonial in the c	sal Concepts*: - environments, and tal Familiarity with i, conflict theory, and per comprehension of f India*: - Knowledge od, the struggle for velopments, offers Indian society s of colonial rule and sight into ding of Political igures, ideologies, did, including those t leaders, is d context of colonial in the struggle for "Familiarity with Post- nding the socio- ependence India, policies, such as the d economic porary Indian ress*: - Knowledge of economics, derstanding of India's fing global issues like
Course Outcomes & Bloom's Level	CO1- 1. Students are able to define, identify and explain the process of Indian Freedom movement and development of political Institutions.(BL1-Remember) CO2- 2. Students are able to summarize and extract the time before independence and after independence India (BL2-Understand) CO3- 3. Students are able to evaluate India society, Its nature and agencies of social change with reference to modernization.(BL5-Evaluate) CO4- 4. Students are able to write the historical accounts that shaped the very nature and character of 20 and 21 st century India with reference to Nation Building and constitution(BL6-Create)							ling and
Coures Elements	Skill Development ✓ Entrepreneurship X Employability X Professonal Ethics ✓ Gender ✓ Human Values ✓ Environment X		SDG (Goals)	SDG3(Good health and well-being) SDG4(Quality education) SDG5(Gender equality) SDG10(Reduced inequalities) SDG12(Responsible consuption and p SDG13(Climate action)	production)			

### Part B

Modules	Contents	Pedagogy	Hours
1	Composition of Indian Society Society- (a) Introduction of Nature of India society and Indian nation state. (b) Major Social Institutions and Organization and threats to national integration (c) Social and Cultural Environment of India Society in 19th ,20th and 21st century.	Lectures and visual PowerPoint slides    Students read text and commentary on assigned topics as well as published research articles before the lectures    Students read cases discussed in the text-books, as well as more detailed articles.    Students participate in class discussions to crystallize the concepts	5
2	Unit II Indian Freedom Movement- emergence. 1) Revolt of 1857, Rise of nationalism & Birth of Congress 2). Partition of Bengal & swadeshi movement, Home rule movement Round table conferences 3) Revolutionary movements, Gandhian movements (i) Non-Cooperation (ii) Civil Disobedience (iii) Quit India movement	Lectures and visual PowerPoint slides • Students read text and commentary on assigned topics as well as published research articles before the lectures • Students read cases discussed in the text-books, as well as more detailed articles. • Students participate in class discussions to crystallize the concept	5
3	Unit 3 Indian freedom and Partition 1.) Communalism – Rise & spread (11.) Muslim league & its politics , Hindu communalism . 111.) India's partition & independence References	Lectures and visual PowerPoint slides • Students read text and commentary on assigned topics as well as published research articles before the lectures • Students read cases discussed in the text-books, as well as more detailed articles. • Students participate in class discussions to crystallize the concept	5
4	UNIT IV Nation building Since Independence 3 stages of making of the Indian Nation state: Era of planned progress. (1951-1971) Period of Populist policies and programmes (1971 to 1992) Period of paradigm shift towards liberalization and globalization (since 1992). Responses of various classes, communities and regions.	Lectures and visual PowerPoint slides • Students read text and commentary on assigned topics as well as published research articles before the lectures • Students read cases discussed in the text-books, as well as more detailed articles. • Students participate in class discussions to crystallize the concept	5
5	Unit V Nation Building and Global Concern a. Environmental concerns in 21st century b. Question of Globalization and its Impact c. Global Movement for Democracy and sustainability	Lectures and visual PowerPoint slides • Students read text and commentary on assigned topics as well as published research articles before the lectures • Students read cases discussed in the text-books, as well as more detailed articles. • Students participate in class discussions to crystallize the concept	4

# Part C

Modules	Title	Indicative-ABCA/PBL/ Experiments/Field work/ Internships	Bloom's Level	Hours
1 Quiz & Flip Class room		PBL		2

# Part D(Marks Distribution)

	Theory									
Total Marks Minimum Passing Marks External Evaluation Min. External Evaluation Internal Evaluation Min. Internal Evaluation										
100	40	60	28	40	12					
	Practical									
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
00	00	00		00						

# Part E

	1 417 2							
Books	1. Bose, N.K. 1967, Culture and Society in India. Bombay: Asia Publishing House 2. Dube, S.C. 1990, Indian village.(New Delhi: National Book Trust.) 3. Percival Spear: History Indian Society, Penguin, 1966. 4. Uberoi, Patrica: Family, kinship and Marriage, New Delhi: oxford University Press, 1995, PP 50 to 73, 416 to 451 5. Gandhi, M.K.: Remov of Untouchability, Navjeevan Publishing House, Ahmadabad, 1954							
Articles								
References Books	1. A Nagraj, 1998, Jeevan Vidya ek Parichay, Divya Path Sansthan, Amarkantak.							
MOOC Courses								
Videos	1.https://www.youtube.com/watch?v=i8N6YRTJsDk 2. https://youtu.be/MWsT7x3qd3E 3.https://www.youtube.com/watch?v=pQghqJSUAK4&list= 4.https://youtu.be/9BEU8A_JZPU 5.https://youtu.be/PSKQwaZ4da							

	Course / It tout at the														
COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	2	2	2	1	1	-	2	1	-	-
CO2	-	-	-	-	-	1	2	2	1	2	-	1	-	-	-
CO3	-	-	-	-	-	1	2	1	1	1	-	1	-	1	1
CO4	-	-	-	-	-	1	3	1	1	1	-	1	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-