SHIVAJI UNIVERSITY, KOLHAPUR

NAAC accredited "B" (C.G.P.A. 2.48)
3rd Cycle UGC Recognized

Faculty of Interdisciplinary Studies Structure, Scheme and Syllabus for Bachelor of Vocation (B. Voc.)
Advanced Diploma

Nutrition and Dietetics

Part II - Sem. III & IV

(Subject to the modifications that will be made from time to time)
Syllabus to be implemented from 2021-2022 onwards.

SHIVAJI UNIVERSITY, KOLHAPUR

STRUCTURE AND SYLLABUS OF B.VOC.

Bachelor of Vocation (B.Voc.) – Diploma Course: Nutrition and Dietetics.

TITLE **:** B.Voc. (Nutrition and Dietetics)

Syllabus (Semester Pattern)

Under Faculty of Interdisciplinary Studies

YEAR OF IMPLEMENTATION: Syllabus will be implemented from June, 2020

DURATION **:** B. Voc. Part I, II and III (Three Years)
B. Voc. Part I - Diploma (One Year)
B. Voc. Part II - Advanced Diploma (Second Year)
B. Voc. Part III – Degree (Third Year)

PATTERN OF EXAMINATIOM : Semester Pattern

- **Theory Examination** - At the end of semester as per Shivaji University Rules
- **Practical Examination** - i) In the1st, 3rd and 5th semester of B.Voc. there will be internal assessment of practical record, related report submission and project reports at the end of semester
  ii) In the second semester of B. Voc. I, there will be internal practical examination at the end of semester
  iii) In the 4th and 6th semester of B. Voc. there will be external practical examination at the end of semester

MEDIUM OF INSTRUCTION **:** English.

STRUCTURE OF COURSE **:** B. Voc. Part – I, II and III.
Two Semester Per Year, Two General Papers per year / semester Three Vocational Papers per Year / Semester Three Practical papers per Year / Semester.

SCHEME OF EXAMINATION :

A) THEOTY-

- The theory examination shall be at the end of the each semester.

- All the general theory papers shall carry 40marks and all vocational theory papers shall carry 50marks.
- Evaluation of the performance of the students in theory shall be on the basis of semester examination as mentioned above.
- Question paper will be set in the view of entire syllabus preferably covering each unit of the syllabus.

- **Nature of question paper for Theory examination** (Excluding Business Communication Paper)
    i) There will be seven questions carrying equal marks.
    ii) Students will have to solve any five questions

    Que. No. 1 : Short answer type question with internal choice (Two out of Three)

    Que. No. 2 to Que. No. 6: Long answer type questions.
    Que. No. 7 : Short Notes with internal choice (Two out of Three)

B) PRACTICALS:

Evaluation of the performance of the students in practical shall be on the basis of semester examination (Internal assessment at the end of Semester I, II and III and V and external examination at the end of Semester IV and VI as mentioned separately in each paper

Standard of Passing:
As per the guidelines and rules for B. Voc. (Attached Separately – Annexure I)

Eligibility Criteria:

1. The Eligibility for admission is 10+2 or equivalent,in any stream (Arts/Commerce/Science) from any recognized board or University.
2. The candidates after with 10+2 year ITI course in any branch/trade also eligible for course.
3. The candidates graduate from any faculty or engineering degree/diploma holders are also eligible.

Structure of the Course:
B. Voc. –I (Diploma Course) Semester -I

Sr. No.	Paper No.	Title	Theory/ Practical /Project	Marks (Total)	Distribution of Marks		Credits	
					Theory	Practical	Theory	Practical
1	101	Business Communication- I	Theory/ Practical	50	40	10	4	2
2	102	Fundamental of food science - I	Theory/ Practical	50	40	10	4	2
3	103	Human anatomy/ physiology - I	Theory	50	50	-	4	
4	104	Basic nutrition - I	Theory	50	50	-	4	-
5	105	Clinical nutrition/Diet therapy- I	Theory	50	50	-	4	-
6	106	Lab work – Human anatomy- I	Practical	50	-	50	-	4
7	107	Lab work – basic nutrition - I	Practical	50	-	50	-	4
8	108	Lab work – Clinical nutrition/Diet therapy- I	Practical	50	-	50	-	4
9	109	Project		50	-	50	-	-

Structure of the Course:
B. Voc. –I (Diploma Course) Semester -II

Sr. No.	Paper No.	Title	Theory/ Practical /Project	Marks (Total)	Distribution of Marks		Credits	
					Theory	Practical	Theory	Practical
1	201	Business Communication- II	Theory/ Practical	50	40	10	4	2
2	202	Fundamental of food science - II	Theory/ Practical	50	40	10	4	2
3	203	Human anatomy/ physiology - II	Theory	50	50	-	4	
4	204	Basic nutrition - II	Theory	50	50	-	4	-
5	205	Clinical nutrition/Diet therapy- II	Theory	50	50	-	4	-
6	206	Lab work – Human anatomy- II	Practical	50	-	50	-	4
7	207	Lab work – basic nutrition - II	Practical	50	-	50	-	4
8	208	Lab work – Clinical nutrition/Diet therapy- II	Practical	50	-	50	-	4
9	209	Project		50	-	50	-	-

Scheme of Teaching: B. Voc. (Diploma Course) – Part I - Semester – I

Sr. No.	Paper No.	Title	Distribution of workload (Per Week)		
			Theory	Practical	Total
1	101	Business Communication- I	4	2	6
2	102	Fundamental of food science- I	4	2	6
3	103	Human anatomy/physiology- I	4	-	4
4	104	Basic nutrition- I	4	-	4
5	105	Clinical nutrition/Diet therapy - I	4	-	4
6	106	Lab work – Human anatomy- I	-	4	4
7	107	Lab work – basic nutrition - I	-	4	4
8	108	Lab work – Clinical nutrition/ Diet therapy - I	-	4	4
9	109	Project	-	-	-
			20	16	36

B. Voc. - Part-I - Semester – II

Sr. No.	Paper No.	Title	Distribution of workload (Per Week)		
			Theory	Practical	Total
1	201	Business Communication- II	4	2	6
2	202	Fundamental of food science-II	4	2	6
3	203	Human anatomy /physiology-II	4	-	4
4	204	Basic nutrition-II	4	-	4
5	205	Clinical nutrition/Diet therapy - II	4	-	4
6	206	Lab work – Human anatomy - II	-	4	4
7	207	Lab work – basic nutrition II	-	4	4
8	208	Lab work – Clinical nutrition/ Diet therapy - II	-	4	4
9	209	Project	-	-	-
			20	16	36

Structure of Course

B.Voc. - II (Advanced Diploma) Sem. III

Sr. no	Paper no.	Title	Theory/practical/ project	Marks	Distribution of Marks		Distribution of Workload (per Week)		
					Theory	practical	Theory	Practical	Total
	General Education Component								
1.	301	Fundamentals of Financial Accounting-II	Theory/practical	50	40	10	4	2	6
2.	302	Computer Fundamentals	Theory/practical	50	40	10	4	2	6
	Skill Component								
3.	303	Nutritional Biochemistry-III	Theory	50	50	-	4	-	4
4.	304	Medical Nutrition Therapy-III	Theory	50	50	-	4	-	4
5.	305	Human devolvement/ Public health nutrition-III	Theory	50	50	-	4	-	4
6.	306	Lab work- Nutritional Biochemistry-III	practical	50	-	50	-	4	4
7.	307	Lab work - Medical Nutrition Therapy-III	practical	50	-	50	-	4	4
8.	308	Lab work - Human devolvement/ Public health nutrition-III	practical	50	-	50	-	4	4
9.	309	Health Survey		50	-	50	-	-	-

Structure of Course

B.Voc. - II (Advanced Diploma) Sem. IV

Sr. no	Paper no.	Title	Theory/practical/ project	Marks	Distribution of Marks		Distribution of Workload (per Week)		
					Theory	practical	Theory	Practical	Total
	General Education Component								
1.	401	Fundamentals of Financial Accounting - II	Theory/practical	50	40	10	4	2	6
2.	402	Soft Skill and Personality Development	Theory/practical	50	40	10	4	2	6
	Skill Component								
3.	403	Nutritional Biochemistry-IV	Theory	50	50	-	4	-	4
4.	404	Medical Nutrition Therapy-IV	Theory	50	50	-	4	-	4
5.	405	Human devolvement/ Public health nutrition-IV	Theory	50	50	-	4	-	4
6.	406	Lab work- Nutritional Biochemistry-IV	practical	50	-	50	-	4	4
7.	407	Lab work - Medical Nutrition Therapy-IV	practical	50	-	50	-	4	4
8.	408	Lab work - Human devolvement/ Public health nutrition-IV	practical	50	-	50	-	4	4
9.	409	Health Survey		50	-	50	-	-	-

Scheme of Teaching : Advanced Diploma Part II (Advanced Diploma) Semester - III

Sr. no	Paper no.	Title	Distribution of Workload (per Week)		
			Theory	Practical	Total
1.	301	Fundamentals of Financial Accounting-II	4	2	6
2.	302	Computer Fundamentals	4	2	6
3.	303	Nutritional Biochemistry-III	4	-	4
4.	304	Medical Nutrition Therapy-III	4	-	4
5.	305	Human devolvement/ Public health nutrition-III	4	-	4
6.	306	Lab work- Nutritional Biochemistry-III	-	4	4
7.	307	Lab work - Medical Nutrition Therapy-III	-	4	4
8.	308	Lab work - Human devolvement/ Public health nutrition-III	-	4	4
9.	309	Health Survey	-	-	-
		Total	**20**	**16**	**36**

Scheme of Teaching : Advanced Diploma Part II (Advanced Diploma) Semester - IV

Sr. no	Paper no.	Title	Distribution of Workload (per Week)		
			Theory	Practical	Total
1.	401	Fundamentals of Financial Accounting - II	4	2	6
2.	402	Soft Skill and Personality Development	4	2	6
3.	403	Nutritional Biochemistry-IV	4	-	4
4.	404	Medical Nutrition Therapy-IV	4	-	4
5.	405	Human devolvement/ Public health nutrition-IV	4	-	4
6.	406	Lab work- Nutritional Biochemistry-IV	-	4	4
7.	407	Lab work - Medical Nutrition Therapy-IV	-	4	4
8.	408	Lab work - Human devolvement/ Public health nutrition-IV	-	4	4
9.	409	Health Survey	-	-	-
		Total	**20**	**16**	**36**

Structure of Course
B.Voc. - III (Degree) Sem. V

Sr. no	Paper no.	Title	Theory/practical/ project	Marks	Distribution of Marks		Distribution of Workload (per Week)		
					Theory	practical	Theory	Practical	Total
1.	501	Nutritional Epidemiology	Theory/practical	50	40	10	4	2	6
2.	502	Research Methodology	Theory/practical	50	40	10	4	2	6
3.	503	Sport Nutrition (Psychology & Counseling)	Theory	50	50	-	4	-	4
4.	504	Clinical Testing / Food Analysis	Theory	50	50	-	4	-	4
5.	505	Food Quality Control	Theory	50	50	-	4	-	4
6.	506	Lab work- Sport Nutrition (Psychology & Counseling	practical	50	-	50	-	4	4
7.	507	Lab work - Clinical Testing / Food Analysis	practical	50	-	50	-	4	4
8.	508	Lab work - Food Quality Control	practical	50	-	50	-	4	4
9.	509	Health Survey		50	-	50	-	-	-

Structure of Course
B.Voc. - III (Degree) Sem. VI

Sr. no	Paper no.	Title	Theory/practical/ project	Marks	Distribution of Marks		Distribution of Workload (per Week)		
					Theory	practical	Theory	Practical	Total
1.	601	Nutritional Epidemiology	Theory/practical	50	40	10	4	2	6
2.	602	Business Management	Theory/practical	50	40	10	4	2	6
3.	603	Sport Nutrition (Psychology & Counseling)	Theory	50	50	-	4	-	4
4.	604	Clinical Testing / Food Analysis	Theory	50	50	-	4	-	4
5.	605	Food Quality Control	Theory	50	50	-	4	-	4
6.	606	Lab work- Sport Nutrition (Psychology & Counseling	practical	50	-	50	-	4	4
7.	607	Lab work - Clinical Testing / Food Analysis	practical	50	-	50	-	4	4
8.	608	Lab work - Food Quality Control	practical	50	-	50	-	4	4
9.	609	Health Survey		50	-	50	-	-	-

Scheme of Teaching : Degree Part III (Degree) Semester - V

Sr. no	Paper no.	Title	Distribution of Workload (per Week)		
			Theory	Practical	Total
1.	501	Nutritional Epidemiology	4	2	6
2.	502	Research Methodology	4	2	6
3.	503	Sport Nutrition (Psychology & Counseling)	4	-	4
4.	504	Clinical Testing / Food Analysis	4	-	4
5.	505	Food Quality Control	4	-	4
6.	506	Lab work- Sport Nutrition (Psychology & Counseling	-	4	4
7.	507	Lab work - Clinical Testing / Food Analysis	-	4	4
8.	508	Lab work - Food Quality Control	-	4	4
9.	509	Health Survey	-	-	-
		Total	**20**	**16**	**36**

Scheme of Teaching : Degree Part III (Degree) Semester - VI

Sr. no	Paper no.	Title	Distribution of Workload (per Week)		
			Theory	Practical	Total
1.	601	Nutritional Epidemiology	4	2	6
2.	602	Research Methodology	4	2	6
3.	603	Sport Nutrition (Psychology & Counseling)	4	-	4
4.	604	Clinical Testing / Food Analysis	4	-	4
5.	605	Food Quality Control	4	-	4
6.	606	Lab work- Sport Nutrition (Psychology & Counseling	-	4	4
7.	607	Lab work - Clinical Testing / Food Analysis	-	4	4
8.	608	Lab work - Food Quality Control	-	4	4
9.	609	Health Survey	-	-	-
		Total	**20**	**16**	**36**

Eligibility for Admission		10 + 2 from any faculty or equivalent Diploma /Advanced Diploma in any related stream Students who have completed certificate course in nutrition and dietetics are eligible for the second year admission to the course of nutrition and dietetics
Eligibility for Faculty		Faculty- Staff qualification- 1.M.Sc Nutrition /M.A. Home Science 2. Diploma in Nutrition and Dietetics 3.M.B.B.S/B A.MS/B.H.M.Swith NET / SET/Ph.D. M. A (English) with NET/SET for Business Communication
Eligibility for Laboratory Assistant:		B.Sc. (nutrition and dietetics) Diploma in Nutrition and Dietetics
Staffing Pattern	**:**	In 1st Year of B. Voc. - 1 Full Time and 1 Part Time Lecturer and 1 CHB Lecturer for Business Communication
Laboratory Assistant	**:**	For 1st Year of B. Voc. - 1 Part-time

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CREDIT SYSTEM
FOR B. Voc. – Nutrition and Dietetics

Credit system:

Education at the Institute is organized around the semester-based credit system of study. The type of credit will be credit by theory and practical examination. The prominent features of the credit system are a process of continuous evaluation of a student's performance/progress and flexibility to allow a student to progress at an optimum pace suited to his/her ability or convenience, subject to fulfilling minimum requirements for continuation. A student's performance/progress is measured by the number of credits that he/she has earned, i.e. completed satisfactorily. Based on the course credits and grades obtained by the student, grade point average is calculated. A minimum grade point average is required to be maintained for satisfactory progress and continuation in the programme. Also a minimum number of earned credits and a minimum grade point average should be acquired in order to qualify for the degree.

All programmes are defined by the total credit requirement and a pattern of credit distribution over courses of different categories.

Course credits assignment:

Each course has a certain number of credits assigned to it depending upon its lectures and laboratory contact hours in a week. This weight age is also indicative of the academic expectation that includes in-class contact and self-study outside of class hours.

a. One credit would mean equivalent to 15 periods for lectures, practical's/workshop.

b. For internship/ field work, the credit weight age for equivalent hours shall be equal of that for lecture / practical.

The credits for each of the year of B. Voc. Course will be as follows:

Level	Awards	Normal calendar duration	Skill Component Credits	General Education Credits
Year 1	Diploma	Two Semesters	36	24
Year 2	Advanced Diploma	Four Semesters	36	24
Year 3	B. Voc.	Six Semesters	36	24
Total			108	72

Subject wise credit assignment for B. Voc. – Part II (Diploma) Semester – I

Sr No	Paper No.	Title	Theory/ Practical/ Project	Marks (Total)	Distribution of Marks		Credits	
					Theory	Practical	Theory	Practical
1	101	Business Communication- I	Theory /Practical	50	40	10	3	2
2	102	Fundamental of food science- I	Theory /Practical	50	40	10	3	2
3	103	Human anatomy/physiology- I	Theory	50	50	--	3	--
4	104	Basic nutrition- I	Theory	50	50	--	3	--
5	105	Clinical nutrition/Diet therapy - I	Theory	50	50	--	3	--
6	106	Lab work – Human anatomy- I	Practical	50	--	50	--	3
7	107	Lab work – basic nutrition - I	Practical	50	--	50	--	3
8	108	Lab work – Clinical nutrition/ Diet therapy - I	Practical	50	--	50	--	3
9	109	Project	--	50	--	50	--	2

Subject wise credit assignment for B. Voc. – Part I (Diploma) Semester – II

Sr No	Paper No.	Title	Theory/ Practical/ Project	Marks (Total)	Distribution of Marks		Credits	
					Theory	Practical	Theory	Practical
1	201	Business Communication- II	Theory /Practical	50	40	10	3	2
2	202	Fundamental of food science-II	Theory /Practical	50	40	10	3	2
3	203	Human anatomy /physiology-II	Theory	50	50	--	3	--
4	204	Basic nutrition-II	Theory	50	50	--	3	--
5	205	Clinical nutrition/Diet therapy - II	Theory	50	50	--	3	--
6	206	Lab work – Human anatomy - II	Practical	50	--	50	--	3
7	207	Lab work – basic nutrition II	Practical	50	--	50	--	3
8	208	Lab work – Clinical nutrition/ Diet therapy - II	Practical	50	--	50	--	3
9	209	Project	--	50	--	50	--	2

**For Project/Industrial visit /study tour /internship, the workload includes self-study outside of class hours i.e.4 lectures per week.*

Evaluation system:

1. Standard of passing

The maximum credits for B. Voc. Hotel Management and Catering Technology semester course (of six semesters) will be 30 × 6 = 180 credits.

To pass in each paper students are required to obtain 4 grade points in each paper, it means 18 to 20 Marks for 50 Marks Theory / Practical papers, 14.08 to 16 for 40 Marks Theory papers and 04 marks for 10 Marks Practical papers.

2. Assessment of Project / Industrial visit /study tour /Internship Report

i) The Project/Industrial visit/study tour/Internship report must be submitted by the prescribed date usually two weeks before the end of academic session of the semester.

ii) It is desirable that the topics for Project/Industrial visit/study tour/Internship report shall be assigned by the end of previous semester.

iii) The Project/Industrial visit/study tour/Internship report and its presentation shall be evaluated by the coordinator of the course and concerned faculty**.**

3. Grade point for Theory/Practical/ Project / Industrial visit /study tour /Internship Report

- **Table –I: for 50 Marks Theory or Practical**

Grade Point	Marks out of	Marks obtained	Grade	Description of performance
0	50	0.0 to 2.5	D	Unsatisfactory
1	50	2.6 to 5.0		
1.5	50	5.1 to 7.5		
2	50	7.6 to 10.0		
2.5	50	10.1 to 12.5		
3	50	12.6 to 15.0		
3.5	50	15.1 to 17.5		
4	50	17.6 to 20.0	C	Fair
4.5	50	20.1 to 22.5		
5	50	22.6 to 25.0	B	Satisfactory
5.5	50	25.1 to 27.5		
6	50	27.6 to 30.0	B^+	Good
6.5	50	30.1 to 32.5		
7	50	32.6 to 35.0	A	Very Good
7.5	50	35.1 to 37.5		
8	50	37.6 to 40.0	A^+	Excellent
8.5	50	40.1 to 42.5		
9	50	42.6 to 45.0	O	Outstanding
9.5	50	45.1 to 47.5		
10	50	47.6 to 50.0		

- **Table No-II: for 40 Marks Theory and for 10 Marks Practical**

Grade Point	Marks out of	Marks obtained	Grade	Description of performance
0.00	40	0.0 to 2.0	D	Unsatisfactory
1	40	2.08 to 4.0		
1.5	40	4.08 to 6.0		
2	40	6.08 to 8.0		
2.5	40	8.08 to 10.0		
3	40	10.08 to 12.0		
3.5	40	12.08 to 14.0		
4	40	14.08 to 16.0	C	Fair
4.5	40	16.08 to 18.0		
5	40	18.08 to 20.0	B	Satisfactory
5.5	40	20.08 to 22.0		
6	40	22.08 to 24.0	B^+	Good
6.5	40	24.08 to 26.0		
7	40	26.08 to 28.0	A	Very Good
7.5	40	28.08 to 30.0		
8	40	30.08 to 32.0	A^+	Excellent
8.5	40	32.08 to 34.0		
9	40	34.08 to 36.0	O	Outstanding
9.5	40	36.08 to 38.0		
10	40	38.08 to 40.0		
Grade Point	**Marks out of**	**Marks obtained**	**Grade**	**Description of performance**
0.00	10	0.0 to 0.5	D	Unsatisfactory
1	10	0.52 to 1.0		
1.5	10	1.02 to 1.5		
2	10	1.52 to 2.0		
2.5	10	2.02 to 2.5		
3	10	2.52 to 3.0		
3.5	10	3.02 to 3.5		
4	10	3.52 to 4.0	C	Fair
4.5	10	4.02 to 4.5		
5	10	4.52 to 5.0	B+	Satisfactory
5.5	10	5.02 to 5.5		
6	10	5.52 to 6.0	B	Good
6.5	10	6.02 to 6.5		
7	10	6.52 to 7.0	A	Very Good
7.5	10	7.02 to 7.5		
8	10	7.52 to 8.0	A^+	Excellent
8.5	10	8.02 to 8.5		
9	10	8.52 to 9.0	O	Outstanding
9.5	10	9.02 to 9.5		
10	10	9.52 to 10.0		

Calculation of SGPA and CGPA-

1. Semester Grade Point Average (SGPA) = **Σ (course credits in passed courses X earned grade points)**
Σ (Course credits in registered courses)

2. Cumulative Grade Point Average = **Σ (course credits in passed courses** X earned grade points) of all Semesters
(CGPA) **Σ (Course credits in registered courses)** of all Semesters

3. At the end of each year of B. Voc. Program, student will be placed in any one of the divisions as detailed below:

SGPA and CGPA Table

Grade Point	Grade	Description of performance
0.00 to 3.49	D	Unsatisfactory
3.5to 4.49	C	Fair
4.5 to 5.49	B	Satisfactory
5.5 to 5.99	B^+	Good
6.0 to 6.99	A	Very Good
7.o to 8.49	A^+	Excellent
8.5 to10.00	O	Outstanding

- I^{st} Class with distinction: CGPA > 7.0 and above
- I^{st} Class: CGPA > 6.0 and < 7.0
- II^{nd} Class: CGPA > 5.0 and < 6.0
- Pass Class: CGPA > 4.0 and < 5.0
- Fail: CGPA < 4.0

SHIVAJI UNIVERSITY, KOLHAPUR
Practical Syllabus
B. Voc. Part – II, Semester - III
Nutrition and Dietetics
Paper No – 301 - Fundamentals of Financial Accounting -I

Work Load–6	Total Marks –50
Theory – 4 Lectures/Week	Theory – 40Marks
Practical – 2 Lectures/Week	Practical – 10Marks

Objective

To impart basic accounting knowledge as applicable to business.

UNIT- I :- INTRODUCTION TOACCOUNTING

- Meaning, nature and advantages of accounting, branches of accounting.
- Accounting concepts and conventions, types of accounts.
- Rules of journalizing, source documents – cash vouchers, cash memo.
- Receipts , debit notes, credit notes.
- Paying slips , withdrawals , Cheque

UNIT- II :- JOURNALS & LEDGER

- Preparation of journal entries and ledger accounts
- Subsidiary books- purchase books, purchase return book, sales book, sales return book, cash book, bills receivable book, bills payable book, journal proper.

UNIT-III :- DEPRECIATION

- Meaning,
- Methods- straight line method- reducing balance method, change in deprecation method,

UNIT- IV :- FINALACCOUNTS

- Preparation of trial balance.
- Preparation of final accounts of sole traders and partnership firms

Practical's (Based on the above Units) :

1. Preparation of journal entries and ledger account

Preparation of subsidiary books.

1. Preparation of trial balance.
2. Practical problems on final accounts of sole traders and partnership firms.
3. Practical problems on methods of depreciation.

Reference Books.

1. Barry Berman and Joel R . Evans- Retailing management- A Strategic Approach, Prentice Hall ofIndia.
2. James R. Ogden Denise Ogden- Integrated Retail Management-Biztantra.
3. Gibson G. Vedamani- Retail Management- Functional Principle Practices, Jiao PublishingHouse.
4. Swapna Pradhan- Retailing Management- Text and Cases, Tata McGrawHill

SHIVAJI UNIVERSITY, KOLHAPUR
Practical Syllabus
B. Voc. Part – II, Semester - III
Nutrition and Dietetics
Paper No – 302 - Computer Fundamentals

Work Load–6	Total Marks –50
Theory – 4 Lectures/Week	Theory – 40Marks
Practical – 2 Lectures/Week	Practical – 10Marks

Objective

To enable student to develop skill in computer fundamentals.

UNIT- I : MS –WORD

- File commands, print, pagesetup.
- Editing – cut, copy, paste, find, replace,etc.
- Formatting commands – fonts, bullets, borders, columns, tabs,indents.
- Tables, auto text, autocorrect.
- Mailmerge.
- Hyperlinks.

UNIT - II :- MS –EXCEL

- Features, auto fill, custom listsetc.
- Cell reference – relative andabsolute($)
- Formulae, functions (math/stats, text, date, IF)
- Charts – types, parts of thechart.
- Databases (create,sort,autofilter,sub total)

UNIT- III :- MS –POWERPOINT

- Slide layout.
- Clipart, organizational chart, graphs, tables.
- Slide Timings.

UNIT- IV :- INTERNET /E-MAIL

- Pre – requisites for internet, role of modem.
- Services – emailing, chatting, surfing, blog.
- Search engines, browsers, dial up, domains.

Practical's (Based on the above Units) :

1. Handlingcomputer.
2. Handlinginternet.
3. Handlingemail.
4. Making power pointpresentation.

Reference Books.

1. Computer Fundamentals – P.K. Sinha.
2. A First Course In Computers – SanjaySaxena.
3. DOS Guide – PeterNorton.
4. Mastering MS- OFFICE – Lonnie E.Moseley and David M. Boodey (BPB Publication)
5. Mastering FOXPRO – Charles Siegel (BPBPublication)

SHIVAJI UNIVERSITY, KOLHAPUR
Practical Syllabus
B. Voc. Part – II, Semester - III
Nutrition and Dietetics
Paper No – 303 - Nutritional Biochemistry

Theory –4 . **Practical:-4**

S. No	Topic	Domain
UNIT 1	**Basics of energy metabolism, nutrition & dietetics –** • Unit of measuring energy • calorific value of food • BMR & factors affecting it • SDA of food • calculation of energy requirement, • balanced diet • Nutrition in health & diseases (protein energy malnutrition)	**Must Know** • Definition of energy • Unit of energy i.e. calories and joules • Energy Balance i.e. positive & negative energy balance • Basal Metabolic Rate:- ▪ Factors considered while measuring BMR ▪ Factors affecting BMR • Calculation of energy • Definition of Balance diet **Desirable to know** • Food sources that provide energy • Nutrition in health & diseases **Nice to know** • Energy value of different nutrients • Factors considered in planning balance diet
UNIT 2	**Chemistry of carbohydrates & their related metabolism –.** • Introduction • Definition • Classification • Biomedical importance Brief outline of metabolism: Glycogenesis • Glycogenolysis	**Must Know** • Definition of carbohydrate • Classification of carbohydrate • Definition of glycolysis • Reactions of glycolysis • Definition of citric acid cycle • Reactions of citric acid cycle • Pathway of gluconeogenesis • Pathway of glycogenolysis • Location of HMP Shunt

	• Glycolysis, • Citric acid cycle & its significance, • HMP shunt • Gluconeogenesis regulation of blood glucose level	pathway • Reaction of HMP Shunt pathway • Metaboli and hormonal mechanism of glucose homeostasis **Desirable to know** • biomedical importance of carbohydrate • digestion & absorption of carbohydrate • key reactions of gluconeogenesis • regulation of glycogen metabolism • stages of maintenance of blood glucose level **Nice to know** • Properties of monosaccharide • Metabolism of glucose • Glucose transport and insulin secretion • Sites of gluconeogenesis • Glycogen storage disease
UNIT 3	**Amino acids –** • Definition • classification • Essential &non essential amino acids	**Must Know** • Definition of amino acids • Classification of amino-acids • Difference between essential &non essential amino acids **Desirable to know** • Properties of amino acids • Peptide Bonds **Nice to know** • Biomedical importance

UNIT 4	**Chemistry of Proteins & their related metabolism –.** • Introduction, • definition, • classification, • biomedical importance Metabolism: o Transformation o Decarboxylation o Ammonia formation & transport • Urea cycle	**Must Know** • Definition of protein • Classification of proteins • Urea cycle • Digestion, absorption process **Desirable to know** • Structure of protein • Functions of protein • **Nice to know** • Biomedical importance • Denaturation of proteins

Reference Books:-

- **Nutritional Biochemistry and the Discovery of Vitamins: the Work of Elmer VernerMcCollumMay 2002Journal of Biological Chemistry 277(19):e8-e10**
- DOI:10.1016/S0021-9258(19)60665-4Authors:Robert D. Simoni
- Basic and Applied Biochemistry, Nutrition and Dietetics for Nursing, 3e Paperback – 1 November 2021by Sheila John and Jasmine Devaselvam (Author)3.0 out of 5

SHIVAJI UNIVERSITY, KOLHAPUR
Practical Syllabus
B. Voc. Part – II, Semester - III
Nutrition and Dietetics
Paper No – 304 - MEDICAL NUTRITION THERAPY

Theory -4 **Practical -4**

UNIT - 1 :- Applied Nutrition & Food safety

1. Assessment of nutritional status of different age groups
   - Infants, preschoolers, children, adolescents, adults & elderly
   - Pregnant & lactating females
2. Planning diet for different age groups as per their nutrient requirements & factors affecting their nutritional needs
   - Infants, preschoolers, children, adolescents, adults & elderly
   - Pregnant & lactating females
3. Major nutrition related community health problems – PEM, anemia, iodine deficieny, vitamin A deficiency, scurvy, beriberi, pellagra, fluorosis etc.
4. Inborn errors of metabolism in brief
5. Management of diet in different types of institutional settings
6. Quality Control - National & International food safety regulating agencies & organizations

UNIT - 2 : Molecular Nutrition

1. The molecular nutrition paradigm
2. Nutritional physiology and biochemistry
3. Nutriepigenomics & metabolomics
4. Dietetics & molecular gastronomy
5. Molecular nutrients targeting with diet

UNIT - 3 :- Therapeutic Nutrition

1. Factors in patient care, counselling and co-ordinated nutritional services for the patient, feeding the patient, psychological aspects & assessment of patient's needs – Different nutritional assessment tools for patients (MUST, SGA, MNA etc)
2. RDAs & Dietary guidelines for Indians
3. Physiological changes & diet for different types of infections (Fevers)
4. Physiological changes & diet for GI disorders

5. Physiological changes & diet for Cardiac disorders
6. Physiological changes & diet for pulmonary disorders
7. Physiological changes & diet for kidney disorders

UNIT 4 Advanced Nutrition

1. Planning diet for different conditions studied in theory like -
   - Different Sports
   - Weight management programmes
   - Planning diet for stress condition
   - Disaster diet management plan
   - Space nutrition diet plan

REFERENCE BOOKS

1. Simpson & Kafka: Basic Statistics (Oxford & I.B.H. Publishers)
2. Gupta S.P.: Statistical Methods (Sultan Chand & Co.)
3. Goon, Gupta, Das: Fundamentls of statistics, Vol I and II. Gupta
4. Phillip B.S. : Social research, strategy &techtics.
5. Devdas R.P.: Hand book of Research Methodology. Kulandaivel (Sri RamKrishna Mission Vidyalaya 1971)
6. Food Science- B. Srilakshmi.
7. Norman P.N. Food Science, The AVI Publishing Co. 1962.
8. Charley H. Food Science John Wiley & Sons, 1982.
9. Text book of Human Nutrition. Bamji, Rao& Reddy
10. Therapeutic nutrition. B.Srilakshmi

SHIVAJI UNIVERSITY, KOLHAPUR
Practical Syllabus
B. Voc. Part – II, Semester - III
Nutrition and Dietetics
Paper No – 305 - Human Development /Public Health Nutrition

THEORY-4 PRACTICAL-4

UNIT - I : Concept and scope of public nutrition

- Definition and multidisciplinary nature of public nutrition • Concept and scope • Role of public nutritionist

UNIT- II : Nutritional problems, their implications and related nutrition programmes

- Etiology, prevalence, clinical features and preventive strategies of- Undernutrition
- Protein energy malnutrition, nutritional anaemias, vitamin A deficiency, iodine deficiency disorders - Overnutrition obesity, coronary heart disease, diabetes
- National Nutrition Policy and Programmes
- Integrated Child Development Services (ICDS) Scheme, Mid day Meal Programme (MDMP), National programmes for prevention of Anaemia, Vitamin A deficiency, Iodine Deficiency Disorders.

UNIT III: Assessment of nutritional status•

- Objectives and importance
- Methods of assessment

  a. Direct – clinical signs, nutritional anthropometry, biochemical tests, biophysical tests

  b. Indirect – Diet surveys, vital statistics

UNIT • - IV: Nutrition Education

- Objectives, principles and scope of nutrition and health education and promotion 16
- Behaviour Change Communication

RECOMMENDED READINGS

- Wadhwa A and Sharma S (2003). Nutrition in the Community-A Textbook. Elite Publishing House Pvt. Ltd. New Delhi.
- Park K (2011). Park's Textbook of Preventive and Social Medicine, 21st Edition.M/s BanarasidasBhanot Publishers, Jabalpur, India.
- Bamji MS, Krishnaswamy K and Brahmam GNV (Eds) (2009). Textbook of Human Nutrition, 3rd edition.Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi.
- ICMR (1989) Nutritive Value of Indian Foods. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.
- ICMR (2011) Dietary Guidelines for Indians – A Manual. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.
- Jelliffe DB, Jelliffe ERP, Zerfas A and Neumann CG (1989). Community Nutritional Assessment with special reference to less technically developed countries. Oxford University Press. Oxford.
- World Health Organization (2006). WHO Child Growth Standards: Methods and development: Length/height-for-age, weight-for-age, weight-for-length, weight-for-height.

SHIVAJI UNIVERSITY, KOLHAPUR
Practical Syllabus
B. Voc. Part – II, Semester - III
Nutrition and Dietetics
Paper – 306 : Lab Work - Nutritional Biochemistry

Total Workload: 06 Total Marks - 50
Practical - 4 Lectures / Week / Batch of 20 Students

Each one 2 practical's

1. Identification of carbohydrates (Qualitative Tests)
2. Identification of proteins (Qualitative Tests)
3. To study general properties of the enzyme Urease & Achromatic time of salivary amylase.
4. Estimation of glucose in urine by Benedict's methods

Scheme of Practical Evaluation **50 Marks**

Internal Practical Evaluation

4)	Prepare any one practical from the above	20 Marks
5)	Practical record book	20 Marks
6)	Viva - Voce	10 Marks

Reference Books:

- **Nutritional Biochemistry and the Discovery of Vitamins: the Work of Elmer VernerMcCollumMay 2002Journal of Biological Chemistry 277(19):e8-e10**
- DOI:10.1016/S0021-9258(19)60665-4Authors:Robert D. Simoni
- Basic and Applied Biochemistry, Nutrition and Dietetics for Nursing, 3e Paperback – 1 November 2021by Sheila John and Jasmine Devaselvam (Author)3.0 out of 5

SHIVAJI UNIVERSITY, KOLHAPUR
Practical Syllabus
B. Voc. Part – II, Semester - III
Nutrition and Dietetics
Paper – 307 : Lab Work - Medical Nutrition Therapy

Total Workload: 06 Total Marks - 50
Practical - 4 Lectures / Week / Batch of 20 Students

Each one 2 practical's

Applied Nutrition & Food safety

1. Assessment of nutritional status of different age group
2. Infants, preschoolers, children, adolescents, adults & elderly
3. Pregnant & lactating females

Scheme of Practical Evaluation **50 Marks**

Internal Practical Evaluation

1)	Prepare any one practical from the above	20 Marks
2)	Practical record book	20 Marks
3)	Viva - Voce	10 Marks

Reference Books:

- Simpson & Kafka: Basic Statistics (Oxford & I.B.H. Publishers)
- Gupta S.P.: Statistical Methods (Sultan Chand & Co.)
- Goon, Gupta, Das: Fundamentls of statistics, Vol I and II. Gupta
- Phillip B.S. : Social research, strategy &techtics.
- Devdas R.P.: Hand book of Research Methodology. Kulandaivel (Sri RamKrishna Mission Vidyalaya 1971)
- Food Science- B. Srilakshmi.

SHIVAJI UNIVERSITY, KOLHAPUR
Practical Syllabus
B. Voc. Part – II, Semester - III
Nutrition and Dietetics
Paper – 308 : Lab Work - Human Development /Public Health Nutrition

Total Workload: 06 Total Marks - 50
Practical - 4 Lectures / Week / Batch of 20 Students

Each one 2 practical's

1. Planning of low cost nutritious recipes for infants, preschoolers, pregnant/nursing m1. Planning of low cost nutritious recipes for infants, preschoolers, pregnant/nursing mothers for nutrition education.
2. Assessment of nutritional status:
   - Anthropometry – weight and height measurements
   - Plotting and interpretation of growth charts for children below 5 years
   - Identification of clinical signs of common nutritional disorders
   - Dietary assessment – FFQ and 24 hour diet recall 2. Planning and conducting a food demonstration.

Scheme of Practical Evaluation **50 Marks**

Internal Practical Evaluation

1)	Prepare any one practical from the above	20 Marks
2)	Practical record book	20 Marks
3)	Viva - Voce	10 Marks

Reference Books:

- Wadhwa A and Sharma S (2003). Nutrition in the Community-A Textbook. Elite Publishing House Pvt. Ltd. New Delhi.
- Park K (2011). Park's Textbook of Preventive and Social Medicine, 21st Edition.M/s BanarasidasBhanot Publishers, Jabalpur, India.
- Bamji MS, Krishnaswamy K and Brahmam GNV (Eds) (2009). Textbook of Human Nutrition, 3rd edition.Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi.
- ICMR (1989) Nutritive Value of Indian Foods. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.
- ICMR (2011) Dietary Guidelines for Indians – A Manual. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.

SHIVAJI UNIVERSITY, KOLHAPUR
Practical Syllabus
B. Voc. Part – II, Semester - III
Nutrition and Dietetics
Paper – 309 : Lab Work - Health Survey

Total Workload: 06 Total Marks - 50
Practical - 4 Lectures / Week / Batch of 20 Students

Scheme of Practical Evaluation **50 Marks**

SHIVAJI UNIVERSITY, KOLHAPUR
Practical Syllabus
B. Voc. Part – II, Semester - IV
Nutrition and Dietetics
Paper No – 401 - Fundamentals of Financial Accounting - II

Work Load–6	Total Marks –50
Theory – 4 Lectures/Week	Theory – 40Marks
Practical – 2 Lectures/Week	Practical – 10Marks

Objective:

To impart basic accounting knowledge as applicable to business.

UNIT - I :- COMPUTERIZED ACCOUNTINGSYSTEM

- Introduction.
- Concept, components ,features.
- Impotence and utilization of computerized accountingsystem.

UNIT - II :- COMPUTER APPLICATION THROUGH ACCOUNTING PACKAGE TALLY

- Creation of company, group, ledger accounts, feeding of accounting deta, receipts,payments, purchase, sales, contra, journal, credit note & debitnote.
- Inventory information – groups, items &valuation.
- Generation of various accountingreports.

UNIT - III :- ACCOUNTS OF PROFESSIONALS

- Preparation of receipts and paymentaccount.
- Income and expenditure account and balance sheets of non profitorganization.

UNIT - IV : SINGLE ENTRY SYSTEM

- Conversion of single entry system into double entry system.

Practicals (Based on the above Units) :

1. Understanding computerized accounting practices applied in different retail maiis in&around kolhapurcity.
2. Practical problems based on computerized accounting usingtally.
3 Practical problems on preparation of receipts and payment account.
4. Preparation of income and expenditure account and balance sheet of non-profit making organizations.

Reference Books.

1. Theory and Practice of Computer Accounting, Rajan Chaugule and Dhaval Chaugule.
2. Advanced Accountancy, S.C. Jain and K.L.Narang.
3. Advanced Accountancy, M.C. Shukla and T.S.Garewal.
4. Advanced Accountancy,S.N.Maheshwari.

SHIVAJI UNIVERSITY, KOLHAPUR
Practical Syllabus
B. Voc. Part – II, Semester - IV
Nutrition and Dietetics
Paper No – 402 - Soft Skill and Personality Development

Work Load–6	Total Marks –50
Theory – 4 Lectures/Week	Theory – 40Marks
Practical – 2 Lectures/Week	Practical – 10Marks

Objective

To enable student to develop skills & personality development

UNIT - I :- PERSONAL SKILLS

- Knowing oneself.
- Confidence building.
- Defining strengths.
- Thinking creatively personal values.
- Time and stress management.

UNIT- II :- SOCIALSKILLS

- Appropriate and contextual use oflanguage.
- Non verbal communication, interpersonalskills.
- Problemsolving.

UNIT - III :- PERSONALITY DEVELOPMENT

- Personal grooming and business etiquettes, corporate etiquette, social etiquette & telephone etiquette.
- Role play and body language.

UNIT - IV :- PRESENTATIONSKILLS

- Group discussion.
- Mock group discussion using video recording.
- Public speaking.
- Professional etiquettes.

Practical's (Based on the above Units) :

1. Developing the personality.
2. Group discussion.
3. Body language and personal antiques.
4. Publicspeaking.
5. Handling theguest.

Reference Books.

1. MatilaTreece, Successful Communication :Allemande Bacon,Pubharkat.
2. Robert T. Reilly, Effective Communication in Tourist and TravelIndustry, DilnasPublication.
3. Boves, Thill, Business Communication Today, Mcycans HillsPublication.

SHIVAJI UNIVERSITY, KOLHAPUR
Practical Syllabus
B. Voc. Part – II, Semester - IV
Nutrition and Dietetics
Paper No – 403 - Nutritional Biochemistry

Theory – 4 **Practical:-4**

S. No	Topic	Domain
UNIT 1	**Enzymes** • Introduction • definition • classification • coenzymes • isoenzymes • properties • factors affecting enzyme action • enzyme inhibition • diagnostic value of serum enzymes o Creatinine kinase o Alkaline phosphatase o Acid phosphatase o LDH, o SGOT, o SGPT, o Amylase, o Lipase, • Carbonic anhydrase	**Must Know** • Definition of enzymes • Classification of enzymes • General properties of enzymes • IUBMB system of nomenclature • Isoenzymes • Diagnostic value of serum enzymes **Desirable to know** • Chemical nature of enzymes • Factors affecting the rate of enzyme catalyzed reaction • Properties of isoenzymes **Nice to know** • Biomedical importance • Measurement of enzyme activities • Physiological importance of isoenzymes
UNIT 2	**Acid base balance concepts & disorders** • pH • Buffers • Acidosis • Alkalosis	**Must Know** • Importance of water in human body • Components of body fluid • Various functions of water **Desirable to know** • sources • The health effects due to water imbalance

		Nice to know • The normal requirement of water in human body
UNIT 3	**Hormones** • Classification, • general mode of action, • hormones of o Pituitary, o Thyroid, o Parathyroid, o Adrenals, o Reproductive Glands, o Pancreas, • hormonal disorders, • Counter regulatory hormones.	**Must Know** • Introduction of hormones • Classification of hormones • Functions of different hormones • Hormonal disorders **Desirable to know** • Chemical nature of hormones • Active form of hormone **Nice to know** • Hormone receptors • Regulation of hormone secretion
UNIT 4	**Hyperglycemia&hypoglycemia** Diabetes mellitus – • Definition • Types • Features • Gestation diabetes mellitus • Glucose tolerance test • Glycosurias • Hypoglycemia& its causes	**Must Know** • Introduction to disease • Types of diabetes mellitus • Nutritional management **Desirable to know** • Diagnostic test • Food sources that provide energy

Reference Books:-

- Best *Books – Nutritional* and Clinical *Biochemistry* ; 3. "*Nutritional Biochemistry* and Metabolism: With Clinical Applications" by Maria C Linder ; 4.
- Nutritional Biochemistry Textbooks ; Biochemical, Physiological, and Molecular Aspects of Human Nutrition. by Martha H. Stipanuk. Hardback ; Biochemical, ...
- Nutritional Biochemistry includes a discussion of relevant aspects of physiology, food chemistry, toxicology, pediatrics, and public health. Experimental ...

SHIVAJI UNIVERSITY, KOLHAPUR
Practical Syllabus
B. Voc. Part – II, Semester - IV
Nutrition and Dietetics
Paper No – 404 - Medical Nutrition Therapy

Theory-4 **Practical-4**

Unit - 1 : Applied Nutrition & Food safety

1. Quality Control - National & International food safety regulating agencies & organizations
   - FSSAI & its rules & regulations to maintain food quality & holistic wellness
   - Safe food practices as per FSSAI, nutrition labelling & carbon foot prints of food
2. Quality evaluation & Techniques -
   - Sensory evaluation – Colour, texture, flavour & taste, different tests & methods of sensory evaluation of foods
   - Bacteriological & nutritional quality evaluation for food products
   - Statistical methods used in quality control
   - Food adulteration & food toxicities including food borne illness
3. Food safety &contamination : Naturally occuring toxins & antinutritional factors (lathyrism, Epidemic dropsy), contamination of food (Chemical, heavy metal & pesticide residue) fungal aflatoxic hepatitis, enteroergotism&mycotoxicosis.
4. Carbon foot prints of food

UNIT - 2 : Molecular Nutrition

1. Dietary supplements &nutraceuticals
2. Survey of target molecules
3. Survey of nutrient molecules
4. Targeting Foodome – Metabolome Interaction: a combined Modeling Approach
5. Metabolic syndrome in relation to different diseases
6. Solutions to implement Molecular Nutrition

UNIT - 3 : Therapeutic Nutrition

1. Physiological changes & diet for liver disorders
2. Physiological changes & diet for neurological disorders

3. Physiological changes & diet for different types of cancers, burn
4. Nutritional care in pre & post surgey patients including bariatrics
5. Physiological changes & diet for different types of autoimmune disorders
6. Special feeding methods - Enteral &parentral feeding
7. Drug nutrient interaction
8. Standard guidelines for clinical nutrition (ASPEN/ ESPEN/ IAP/ KDQOI etc.)

UNIT - 4 :- Advanced Nutrition

1. Presentations based on traditional & modern developments in
   - Fermented foods
   - Antioxidants
   - Functional foods
   - Organic foods
   - Nutregenomics
   - Prebiotics, probiotics &symbiotics13

Reference books:-

1. Nutrition & Dietetics & Nutrition. Antia F.P. & Abraham P.
2. Human Nutrition & Meal Planning. Sheel Sharma
3. Nutritional problems of India :Shukla P.K.
4. Catering Management – MohiniShetty&SurjeetMalhan
5. Normal & Therapeutic nutrition. Robinson CH, Lawler MR, Chenoweth WL and Garwick AW (1986) 17th Ed. Macmillan Publihing Company, Newyork,, Collier Macmillan Canada, Inc. Toronto, Collier Macmillan publishers, London.
6. Textbook of biochemistry by E.S. West, W.R. Todd, H.S. Nelson, T.T. Van Brugger, Oxford I.B.H. Publishing Co., New Delhi, Bombay, Calcutta.
7. Lehninger, A.L. Biochemistry, Worth Publishing Inc. N.Y.
8. Texbook of biochemistry for Medical Students by A.V.S. Rama Rao, L.K. & S. Publishers, Tanaku
9. Molecular Nutrition – The Practical Guide. Jeffrey I, Mechanick MD, Michael A., Via MD and Shan Zhao, Endocrine Press, 2018.
10. Nutrition care & therapeutic nutrition. Krause.
11. Normal & Therapeutic nutrition. Robinson CH, Lawler MR, Chenoweth WL and Garwick AW (1986) 17th Ed. Macmillan Publihing Company, Newyork,, Collier Macmillan Canada, Inc. Toronto, Collier Macmillan publishers, London.
12. Modern nutrition in health & disease. Shils M.E. And Young V.R. Bombay K.M. Verghese Company (vi edition 1988)

SHIVAJI UNIVERSITY, KOLHAPUR
Practical Syllabus
B. Voc. Part – II, Semester - IV
Nutrition and Dietetics
Paper No – 405 - Human Development /Public Health Nutrition

THEORY-4 PRACTICAL-4

Objectives

1. To enable students to identify and contribute to the prevention of public health/ social health problems in the country.
2. To equip students with workable knowledge to treat common illnesses at home.

UNIT - I: **Introduction to Nutritional deficiency diseases Causes, symptoms, treatment, prevention of the following:**

- Protein Energy Malnutrition (PEM)
- Vitamin A Deficiency (VAD)
- Iron Deficiency Anaemia (IDA)
- Iodine Deficiency Disorders (IDD)
- Zinc Deficiency
- Flurosis

UNIT - II : Social health problems

- Smoking
- Alcoholism

UNIT - III :- Nutrition for special conditions

- Introduction to Nutrition for physical fitness and sport
- Feeding problems in children with special needs
- Considerations during natural and man-made disasters e.g.
- floods, war.- basic guidelines in disaster management.

Unit IV: Food Security

- Key terms, factors affecting food security, recent concern
- Technologies for food and nutrition security

References:-

- Mudambi, SR and Rajagopal, MV. Fundamentals of Foods, Nutrition and Diet Therapy; Fifth Ed; 2007; New Age International Publishers
- Wardlaw GM, Hampl JS. Perspectives in Nutrition; Seventh Ed; 2007; McGraw Hill..
- Sethi P and lakra P Aahaarvigyaan ,PoshanevamSuruksha, Elite Publishing house, 2015
- Khanna K et al. Textbook of Nutrition and Dietetics;2013; Phoenix Publisher.
- Sharma S, Wadhwa A. Nutrition in the Community- A textbook; 2003; Elite Publishing House Pvt. Ltd.
- Srilakshmi B. Dietetics; Fourth Ed; 2002; New Age International (P) Ltd.
- Bamji MS, Rao NP, and Reddy V. Text Book of Human Nutrition; 2009; Oxford & IBH Publishing Co. Pvt Ltd.
- The Food Safety and Standards Act along with Rules and Regulations. Delhi: Commercial Law Publishers (India) Pvt Ltd, 2011. 13
- Drug addiction
- AIDS including AIDS Control Programme

SHIVAJI UNIVERSITY, KOLHAPUR
Practical Syllabus
B. Voc. Part – II, Semester - IV
Nutrition and Dietetics
Paper – 406 : Lab Work - Nutritional Biochemistry

Total Workload: 06 Total Marks - 50
Practical - 4 Lectures / Week / Batch of 20 Students

Each one 2 practical's

1. Urine analysis – normal & abnormal constituents of urine.
2. Blood glucose estimation.
3. Bile pigment metabolism: Jaundice – its types and their biochemical findings.
4. Vitamins deficiency disorders

Scheme of Practical Evaluation **50 Marks**

Internal Practical Evaluation

1)	Prepare any one practical from the above	20 Marks
2)	Practical record book	20 Marks
3)	Viva - Voce	10 Marks

Reference Books:

- Best *Books – Nutritional* and Clinical *Biochemistry* ; 3. "*Nutritional Biochemistry* and Metabolism: With Clinical Applications" by Maria C Linder ; 4.
- Nutritional Biochemistry Textbooks ; Biochemical, Physiological, and Molecular Aspects of Human Nutrition. by Martha H. Stipanuk. Hardback ; Biochemical, ...
- Nutritional Biochemistry includes a discussion of relevant aspects of physiology, food chemistry, toxicology, pediatrics, and public health. Experimental ...

SHIVAJI UNIVERSITY, KOLHAPUR
Practical Syllabus
B. Voc. Part – II, Semester - IV
Nutrition and Dietetics
Paper – 407 : Lab Work - Medical Nutrition Theropy

Total Workload: 06 Total Marks - 50
Practical - 4 Lectures / Week / Batch of 20 Students

Each one 2 practical's

Applied Nutrition & Food safety

a) Learning anthropometric techniques – Recording & interpretation of height, weight, BMI, Fat percentage, waist hip ration, bone mineral density, skin fold thickness, chest, head & mid upper arm circumference, infant weight & length

b) Measurement of blood pressure, temperature, blood glucose, biochemical assessment to identify deficiency diseases namely PEM, anemia etc.

c) Clinical assessment – Identifyingclinicalmenifestations (signs & symptoms) of various

Scheme of Practical Evaluation **50 Marks**

Internal Practical Evaluation

1)	Prepare any one practical from the above	20 Marks
2)	Practical record book	20 Marks
3)	Viva - Voce	10 Marks

Reference Books:

- Nutrition & Dietetics & Nutrition. Antia F.P. & Abraham P.
- Human Nutrition & Meal Planning. Sheel Sharma
- Nutritional problems of India :Shukla P.K.
- Catering Management – MohiniShetty&SurjeetMalhan
- Normal & Therapeutic nutrition. Robinson CH, Lawler MR, Chenoweth WL and Garwick AW (1986) 17th Ed. Macmillan Publihing Company, Newyork,, Collier Macmillan Canada, Inc. Toronto, Collier Macmillan publishers, London.
- Textbook of biochemistry by E.S. West, W.R. Todd, H.S. Nelson, T.T. Van Brugger, Oxford I.B.H. Publishing Co., New Delhi, Bombay, Calcutta.

SHIVAJI UNIVERSITY, KOLHAPUR
Practical Syllabus
B. Voc. Part – II, Semester - IV
Nutrition and Dietetics
Paper – 408 : Lab Work - Human Development /Public Health Nutrition

Total Workload: 06 Total Marks - 50
Practical - 4 Lectures / Week / Batch of 20 Students

Each one 2 practical's

Objectives:

- To enable the students to develop recipes for treating various nutritional deficiencies
- To develop in them the skill to modify normal diets for disease conditions
- Planning and preparation of snacks for PEM, VAD and IDA (one full days diet for PEM and snacks for PEM VAD and IDA
- Visit to any national programme 10 2 RECOMMENDED READING

Scheme of Practical Evaluation **50 Marks**

Internal Practical Evaluation

1)	Prepare any one practical from the above	20 Marks
2)	Practical record book	20 Marks
3)	Viva - Voce	10 Marks

Reference Books:

- Mudambi, SR and Rajagopal, MV. Fundamentals of Foods, Nutrition and Diet Therapy; Fifth Ed; 2007; New Age International Publishers
- Wardlaw GM, Hampl JS. Perspectives in Nutrition; Seventh Ed; 2007; McGraw Hill..
- Sethi P and lakra P Aahaarvigyaan ,PoshanevamSuruksha, Elite Publishing house, 2015
- Khanna K et al. Textbook of Nutrition and Dietetics;2013; Phoenix Publisher.
- Sharma S, Wadhwa A. Nutrition in the Community- A textbook; 2003; Elite Publishing House Pvt. Ltd.

SHIVAJI UNIVERSITY, KOLHAPUR
Practical Syllabus
B. Voc. Part – II, Semester - IV
Nutrition and Dietetics
Paper – 409 : Lab Work - Health Survey

Total Workload: 06 Total Marks - 50
Practical - 4 Lectures / Week / Batch of 20 Students

Scheme of Practical Evaluation **50 Marks**