

**Compiled AGENDA FOR THE MEETING OF THE ACADEMIC COUNCIL**

**DATED 24.04.2018**

**Date: 24.04.2018**

**Time: 09.00 AM**

**Venue: Seminar Hall, P.G. Department of Physics, Sambalpur University**

**(A) Ratification of the action of the Vice Chancellor taken in exercise of his powers under Sub- Section 15 of Section 6 of the Act.**

1. **Prof. B. Satapathy** (Chairman, PG Council) to move on behalf of the Vice Chancellor:

That the Academic Council do consider and ratify the action taken by the Vice Chancellor in exercise of his powers vested under sub section (15) of section 6 of the Odisha Universities Act-,1989 in approving the amendment of the regulations for BHMS course to be effective from 2015-2016 from the date of which the regulation was implemented.

(Communicated to all concerned vide letter No.4626/Acd-I Dated 30.06.20170)

2. **.Prof. A.K.Das** (H.O.D., P.G. Dept. of Odia) to move on behalf of the Vice Chancellor:

That the Academic Council do consider and ratify the action taken by the Vice Chancellor in exercise of his powers vested under sub section (15) of section 6 of the Odisha Universities Act, 1989 in approving the regulation for Post Doctoral Degree in Humanities, Management and Social Science (D.Litt), Science and Engineering (D.Sc.) and Law (LLD), on the recommendation of the Regulation Amendment Committee held on 06.11.2017 to be effective from 06.11.2017.

(Communicated to all concerned vide Notification No.8448/Acd-I Dated 10.11.A2017)

3. **Prof. P.K.Behera**, (H.O.D., P.G. Dept. of Chemistry) to move on behalf of the Vice Chancellor:

That the Academic Council do consider and ratify the action taken by the Vice Chancellor in exercise of his powers vested under sub section (15) of section 6 of the Odisha Universities Act, 1989 in approving the amendment of Provision 1: 4 regarding Generic Elective Course of the Regulation for the Bachelor of Arts, Science and Commerce examinations (3 year degree course) under Choice

evaluated by the internal examiners. “in Clause – 9 para 5 of PG. in Ayurveda Regulations both effective from 2016 – 17 and 2017-18.

- c. Recommended format for Ph. D. in Ayurveda Certificate. Recommended format is in **Appendix- E-1**

2. **Anthropology :-**

- a. Recommended Revised Syllabus for M.A./ M.Sc. in Anthropology as suggested by B.O.S./R.A.C.

(Appendix-Ei)

3. **Botany :-**

- a. BOS Recommended continuance of UG & P.G Syllabus(BOS has recommended some modifications in Both UG & PG syllabus and has recommended for convening another meeting for finalization of changed. C.O.E. has ordered to wait till A.C. meeting is over)

4. **Business Administration :-**

- a. Change in Syllabus for Executive MBA course. Recommended changes as in **Appendix.E-4- E-ii (A) -**
- b. Recommended revised Regulation and Syllabus for B.B.A. Course under CBCS . **(Appendix:-E-4- E-ii (B)-1 & 2**

5. **Computer Science: -**

BOS Recommended continuance of all relevant syllabus

6. **Chemistry :-**

Recommended revised syllabus for UG course. **(Appendix:-Eiii)** Not received

7. **English :-**

Recommended detailed syllabus for two papers in Alternative English to be offered to the Arts Pass students in place of DSC –TH1 and DSC –TH2 .

**(Appendix:-Eiv)** Not received

8. **Education :-**

BOS Recommended continuance of all relevant syllabuses

9. **Environmental Science: -**

Recommended revised syllabus for AECC – Environmental Science for UG students. Recommended revised Syllabus in **(Appendix-E-9- Ev)**

# COURSES OF STUDIES

## **M.A./M.SC. IN ANTHROPOLOGY**

2018-2020

(UNDER COURSE CREDIT SEMESTER SYSTEM)



**P.G. DEPARTMENT OF ANTHROPOLOGY**

**SAMBALPUR UNIVERSITY**

Courses of Studies for the M. A. /M. Sc. Anthropology  
For the Academic Session 2018-2020

## Course Scheme

The Post-Graduate course of Anthropology is based on the semester system and will have four semesters spread over two years. The course will consist of 20 papers with a total of 80 Credit Hours (hereafter CH). Each semester, consisting of five to six papers shall have a maximum 20 CH. The total teaching hours in a semester shall be 35 hours per week. The credit component includes 28 teaching hours (Theory-16 and Practical-12) and the noncredit component includes 11 hours (Tutorial- 4, Proctorial-4 and Seminar-3) per week.

### Specialization Offered:

The course offers two specializations during the third and fourth semesters.

1. AN-BA-Physical/Biological Anthropology
2. AN-SA-Social Anthropology

The student will opt for either of these specializations with three compulsory papers and two elective/special papers in each 3<sup>rd</sup> and 4<sup>th</sup> semester.

### Evaluation:

- 50 per cent of theory papers shall be evaluated by external examiners.
- All practicals will be evaluated by an external examiner.
- Fieldwork/ Dissertation shall be evaluated internally by the concerned supervising teacher along with other teachers of the Department during the 3<sup>rd</sup> semester while in 4<sup>th</sup> Semester it will be evaluated by the external examiner.

The distribution of the total 80 CH over four semesters has been presented below.

### FIRST SEMESTER (20 CH)

- AN.C. 411 (4 CH) Social/Cultural Anthropology
- AN.C. 412 (4 CH) Physical/Biological Anthropology
- AN.C. 413 (4 CH) Prehistoric Archeology
- AN.C. 414 (4 CH) Research Methodology
- AN.C. 415 (2 CH) Practical: Physical Anthropology
- AN.C. 416 (2 CH) Practical: Prehistoric Archeology

### SECOND SEMESTER (20 CH)

- AN.C. 421 (4 CH) Understanding Society and Culture
- AN.C. 422 (4 CH) Social Exclusion and Inclusive Policy
- AN.C. 423 (4 CH) Tribal Anthropology
- AN.C. 424 (4 CH) Visual Anthropology
- AN.C. 425 (4 CH) Fundamentals of Human Genetics

### THIRD SEMESTER (20 CH)

**Specialization Course: A. Social Anthropology (AN-SA)**  
**Compulsory Courses**

- AN-SA.C. 511 (4 CH) Tribal Studies
- AN-SA.C. 512 (4 CH) Theory and Method in Social-Cultural Anthropology
- AN-SA.C. 513 (4 CH) Fieldwork

**Elective Courses**

AN-SA.E. 514 (4 CH) Anthropology of Children and Childhood-I  
AN-SA.E. 515 (4 CH) Displacement and Rehabilitation

**Specialization Course: B. Physical/Biological Anthropology (AN-BA)**

**Compulsory Courses**

AN-BA.C. 511 (4 CH) Human Genetics  
AN-BA.C. 512 (4 CH) Human Biology  
AN-BA.C. 513 (4 CH) Fieldwork

**Elective Courses**

AN-BA.E. 514 (4 CH) Child Development  
AN-BA.E. 515 (4 CH) Applied Biological Anthropology- I

**FOURTH SEMESTER (20 CH)**

**Specialization Course: A. Social Anthropology (AN-SA)**

**Compulsory Courses**

AN-SA.C. 521 (4 CH) Anthropological Thought  
AN-SA.C. 522 (4 CH) Indian Anthropology  
AN-SA.C. 523 (4 CH) Dissertation and Viva Voce

**Elective Courses**

AN-SA.E. 524 (4 CH) Anthropology of Children and Childhood-II  
AN-SA.E. 525 (4 CH) Development Anthropology

**Specialization Course: B. Physical/Biological Anthropology (AN-BA)**

**Compulsory Courses**

AN-BA.C. 521 (4 CH) Human Population Genetics  
AN-BA.C. 522 (4 CH) Laboratory Based Practical  
AN-BA.C. 523 (4 CH) Dissertation and Viva Voce

**Elective Courses**

AN-BA.E. 524 (4 CH) Growth and Nutrition  
AN-BA.E. 525 (4 CH) Applied Biological Anthropology-II

A student opting for Social Anthropology specialization has to select any two of the following elective (E) courses for course number AN-SA.E.514 and AN-SA.E.515 during the third semester and similarly two more elective courses for course number AN-SA.E.524 and AN-SA.E.525 during the fourth semester.

- E1. Anthropology of Children and Childhood-I
- E2. Anthropology of Children and Childhood-II
- E3. Displacement and Rehabilitation
- E4. Development Anthropology

A student opting for Biological Anthropology specialization has to select any two of the following elective (E) courses for course number AN-BA.E.514 and AN-BA.E.515 during the

third semester and similarly two more elective courses for course number AN-BA.E.524 and AN-BA.E.525 during the fourth semester.

- E1. Child Development
- E2. Growth and Nutrition
- E3. Applied Biological Anthropology-I
- E4. Applied Biological Anthropology-II

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DATE: 1/1

# Proceedings of the Academic Committee

Meeting held on 14th June, 2018 at 12 noon

## Members Present

1. Prof. S.S. Rath (H.O.D) & Coordinator, MBA (CFM)
2. Dr. S. Das (Exam-in-charge, MBA (CFM))
3. Dr. R.K. Kumbhar
4. Dr. L. Mishra

## Resolution

Considered and approved the results of regular, <sup>Repeat</sup> and improvement of II Semester M.B.A. (CF.M.) 2017 examinations

<sup>revised</sup> The syllabus for MA (ECO) for the year 2019-21 is discussed and approved.

<sup>huh</sup>  
(Prof. S.S. Rath) 14.6.18

S Das  
14.06.2018  
(Dr. S. Das)

R.K. Kumbhar  
14/6/18

(Dr R. K. Kumbhar)

L  
14.6.18

(Dr L. Mishra)

Approved

Mishra  
15/6/18

Vice-Chancellor

**COURSES OF STUDIES**

**M.A. (ECONOMICS), 2018-20**



**P.G. DEPARTMENT OF ECONOMICS  
SAMBALPUR UNIVERSITY  
JYOTI VIHAR  
768019**



**SEMESTER SYLLABUS**  
**2018-20**  
**DEPARTMENT OF ECONOMICS (AUTONOMOUS) SAMBALPUR UNIVERSITY**  
**M.A (ECONOMICS)**

COURSE NO.	COURSE TITLE	CREDITS
<b>FIRST SEMESTER</b>		
ECO-401	MICRO ECONOMIC THEORY-I	4
ECO-402	MACROECONOMIC THEORY-I	4
ECO-403	QUANTITATIVE METHODS & COMPUTER APPLICATION-I / STATISTICAL METHODS & COMPUTER APPLICATION-I	4
ECO-404	INDIAN ECONOMIC POLICY-I	4
ECO-405	FINANCIAL INSTITUTIONS & MARKETS-I	4
ECO-406	HISTORY OF MODERN ECONOMIC ANALYSIS (CONTRIBUTIONS OF NOBEL LAURETTES)-I	4
<b>Add on non-credit course (optional): (i)Leadership &amp; Personality Development, or (ii) Communicative English</b>		
<b>TOTAL</b>		<b>24</b>
<b>SECOND SEMESTER</b>		
ECO-411	MICRO ECONOMIC THEORY-II	4
ECO-412	MACROECONOMIC THEORY-II	4
ECO-413	QUANTITATIVE METHODS & COMPUTER APPLICATION-II / STATISTICAL METHODS & COMPUTER APPLICATION-II	4
ECO-414	INDIAN ECONOMIC POLICY-II	4
ECO-415	FINANCIAL INSTITUTIONS & MARKETS-II	4
ECO-416	HISTORY OF MODERN ECONOMIC ANALYSIS (CONTRIBUTIONS OF NOBEL LAURETTES)-II	4
<b>TOTAL</b>		<b>24</b>
<b>THIRD SEMESTER</b>		
ECO-501	PUBLIC ECONOMICS-I	4
ECO-502	INTERNATIONAL TRADE & FINANCE-I	4
ECO-503	GROWTH & DEVELOPMENT-I	4
ECO-504	MATHEMATICAL ECONOMICS-I / AGRICULTURAL ECONOMICS-I	4
ECO-505	ECONOMETRICS-I/ ENVIRONMENTAL ECONOMICS-I	4
ECO-506	SEMINAR	1
<b>Add on non-credit course(optional): (i)Soft and IT Skill, or (ii) Entrepreneurship Development</b>		
<b>TOTAL</b>		<b>21</b>
<b>FOURTH SEMESTER</b>		
ECO-511	PUBLIC ECONOMICS-II	4
ECO-512	INTERNATIONAL TRADE & FINANCE-I I	4
ECO-513	GROWTH & DEVELOPMENT-II	4
ECO-514	MATHEMATICAL ECONOMICS-II / AGRICULTURAL ECONOMICS-II	4
ECO-515	ECONOMETRICS-II / ENVIRONMENTAL ECONOMICS-II	4
ECO-516	SEMINAR	1
<b>TOTAL</b>		<b>21</b>
<b>GRAND TOTAL</b>		<b>90</b>

**Proceeding of Teachers' Council held on 29.03.2018 at 1.00 PM**

The teachers' council proposed a revision of existing syllabus (2013) of M.A. and M. Phil. To be placed before the ~~next~~ <sup>next</sup> ~~Academics Committee~~ <sup>Board of Studies</sup> meeting.

Three of the members of the teachers' council are members of the Board of Studies for English (2018-19). The Chairman of the Board of Studies shall give final shape to the revised syllabus by incorporating new texts as suggested:

**M.A**

Course No. Eng 411

Unit IV: John Dryden's *Absalom and Achitophel* in place of Alexander Pope's *The Rape of the Lock*

Course No. Eng 412

Unit IV: William Shakespeare's *Hamlet* in place of *King Lear*

Course No. Eng 413

Unit IV: Jonathan Swift's *Gulliver's Travels* in place of Sterne's *Tristram Shandy*

Course No. Eng 414

Unit IV: Eliot: "~~Function of Criticism~~" <sup>by</sup>

Course No. Eng 421

Unit II: Keats: "Bright Star" in place of "Ode on a Grecian Urn"

Unit IV: Christina Rossetti's *Goblin Market* in place of Robert Browning's poems

Course No. Eng 422

Unit III: <sup>Beckett</sup> Pirandello: *Six Characters in Search of an Author*

Course No. Eng 432

Unit III: Joseph Conrad's *Heart of Darkness* in place of Kingsley Amis' *Lucky Jim*

Course No. Eng 431

Unit III: Auden: "Look, Stranger, On this Island Now" in place of "In Memory of W. B. Yeats"

Unit IV: Larkin: "Ambulances" in place of "Church Going"

**M. Phil**

Course No. Eng 611

Unit I: Tagore's "Nationalism in India" and M. K. Gandhi's *Hind Swaraj* in place of Rabindranath Tagore's *Nationalism*

Course No. Eng 612

Unit III: Stephen Greenblatt's "What is the History of Literature" in place of Issues and Problems in Literary History

**Members Present:**

Prof. A. K. Mohapatra (Chairman, BOS)

Prof. R. S. Nanda <sup>Tonandh</sup>

Prof. Sabita Tripathy <sup>29.03.18</sup>

BOS

*A. K. Mohapatra*  
12/04/18

*Sabita Tripathy*  
22/4/18



Sambalpur University  
Syllabus for M.Phil. in English  
Under Course Credit cum Semester System  
With effect from 2018-19 session

The M.Phil. English Programme under Course Credit cum Semester System shall comprise 7 courses, spread over two semesters and carrying a total load of 40 credit hours. The first Semester shall consist of Core Courses and Elective Courses. Each course will carry a load of 4 credit hours. The second semester shall consist of two courses of which, the first course will be of 2 credit hours, and the second course will be of 18 credit hours. Each credit hour will consist of a minimum of 12 classes of 1 hour duration. Semester-wise distribution of courses is given below:

**SEMESTER I**

- Eng 611- (Core Course) Nationalism and Literature (4 Credits)
- Eng 612- Elective A: Textual Criticism & Theory of Literary History (4 Credits)
- Elective B: Literature and Gender (4 Credits)
- Elective C: Shakespearean Adaptations (4 Credits)
- Eng 613- (Core Course) Research Methodology (4 Credits)
- Eng 614- (Core Course) Essay (4 Credits)
- Eng 615- (Core Course) Review of Research Papers (4 Credits)

**SEMESTER II**

- Eng 621- Seminar (2 Credits)
- Eng 622- Dissertation (18 Credits)

**PROCEEDINGS OF THE MEETING OF THE ACADEMIC COMMITTEE OF THE  
DEPARTMENT OF ENVIRONMENTAL SCIENCES (AUTONOMOUS) HELD ON 9<sup>th</sup>  
December 2018 AT 3.00PM**

**Members present**

1. Dr. S. K. Pattanayak, Head, Dept. of Environmental Sciences, S. U.
2. Prof. S. K. Sahu, Dept of Environmental Sciences, S. U.
3. Dr. M. R. Mahananda, Dept of Environmental Sciences, S. U.
4. Dr. I. Baitharu, Dept of Environmental Sciences, S. U
5. Prof. P.K.Behera, Dept of Chemistry, S.U
6. Prof.B.Behera, Retd Prof. of Chemistry, Basanta Bihar, Burla, Sambalpur

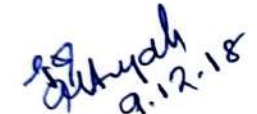
**Business Conducted:**

1. The Academic Committee approves the following recommendations of the Academic Affair Committee held on 9<sup>th</sup> November 2018 and recommends further for consideration and approval by the Vice -Chancellor
  1. Academic calendar for the session 2018-19 (Annexure -1)
  2. The syllabus of M.Sc programme in Environmental Science for the session 2018-19, except the Course No. 422C (Instrumental Techniques: Principle and Application) is taken to Ist Semester as Course No.414C and the present Course No.414C( Non-renewable and Perpetual Energy Resources of 1<sup>st</sup> Semester is taken to 2<sup>nd</sup> Semester.( Annexure-2)
  3. The syllabus of M.Phil programme in Environmental Science for the session 2018-19.
  4. The syllabus of M.Tech programme in Environmental Science & Engineering for the session 2018-19, except the introduction of a Paper titled Research Methodology in 3<sup>rd</sup> Semester Course( 4CH) and with revision of CH of other papers in the third Semester as follows: ESE 712 Evaluation of Summer Training Report/Minor Project Report(4CH),ESE-713 Seminar and Viva-Voce on Summer Training Report/Minor Project Report(4CH) and ESE-714 Evaluation of Dissertation(Interim) ,Seminar and Viva-Voce(8CH) (Annexure-3)
  5. The syllabus of M.Tech programme in Safety, Health and Environmental Technology for the session 2018-19( Annexure-4)
  6. List of teachers as course teachers for M.Sc Programme in Environmental Science for the session 2018-2019, M.Tech. programme in Environmental Science & Engineering for the session 2018-2019, M.Tech. programme in Safety, Health and Environmental Technology for the session 2018-2019 and M. Phil Programme in Environmental Science for the session 2018-2019 ( Annexure- 5, 6, 7 & 8).
  7. List of out station and local resource persons to be engaged in M.Tech programme in Environmental Science & Engineering during 2018-2019 and in M.Tech

programme in Safety, Health and Environmental Technology during 2018-2019 (Annexure-9 & 10).

8. List of experts as paper setters, examiners, moderators and tabulators for M.Sc. in Environmental Science (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> & 4<sup>th</sup> Sem.) 2018-19, M.Tech programme in Environmental Science & Engineering (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> & 4<sup>th</sup> Sem.) 2018-19 and M.Tech programme in Safety, Health and Environmental Technology (1<sup>st</sup> and 2<sup>nd</sup>, Sem.) 2018-19 (Annexure- 11, 12, 13, 14, 15, 16, 17, 18, 19 and 20).
9. List of experts as examiners and Tabulators for M.Phil 2<sup>nd</sup> Semester Environmental Science 2018 and as paper setters, examiners, moderators and tabulators for M.Phil. (1<sup>st</sup> Sem.) 2018-19 and M.Phil (2<sup>nd</sup> Sem) Environmental Science 2018-19 is recommended (Annexure- 21, 22 & 23)


  
9/12/18  
(S. K. Sahu)

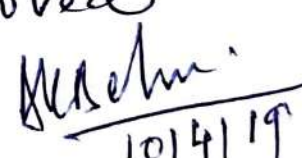
  
9.12.18  
(S. K. Pattanayak)

  
9/12/18  
(M.R. Mahananda)

  
9-12-18  
(I. Baitharu)

  
9/12/18  
(P.K. Behera)

  
9.12.18  
(B. Behera)

Approved  
  
10/4/19  
Vice - Chancellor

# **M. Sc. Programme in Environmental Science**

## **COURSES OF STUDY**

(Effective from Academic Session:2018-19)

(BATCH: 2018-2020)



**P. G. Department of Environmental Sciences**

(Autonomous)

**SAMBALPUR UNIVERSITY**

Jyoti Vihar-768019, Sambalpur, Odisha

**COURSES OF STUDY IN M.Sc. Environmental Sciences (Effective from 2018-2019 session)  
(BATCH: 2018-2020)**

Semester/ Course No	Title of the Course	Credit Hr.	Total CH
<b>First Semester</b>			
ENS. 411C	Fundamentals of Ecology and Environmental Sciences	4	
ENS. 412C	Remote Sensing and Geographical Information System	4	
ENS. 413C	Laboratory Practical and field studies on ENS 411 C & 412 C	3	
ENS. 414C	Instrumental Techniques : Principle and Application	4	
ENS. 415C	Methods of Analysis of Environmental Samples	4	
ENS. 416C	Laboratory Practical and field studies on ENS 414 C and 415 C	3	<b>22</b>
<b>Second Semester</b>			
ENS.421C	Fundamentals of Soil Science	4	
ENS.422C	Nonrenewable and perpetual Energy Resources	4	
ENS.423C	Laboratory Practical and field studies on ENS 421C and 422 C	3	
ENS.424C	Data Analysis in Environmental Sciences	4	
ENS.425C	Laboratory Practical on ENS 424 C including Computer application in Data Analysis	3	
ENS 426 C	Summer Training and Project Report/ Term Paper to be evaluated by Departmental Teachers	4	
ENS.427C	Seminar (to be evaluated by Departmental Teachers)	2	<b>24</b>
<b>Third Semester</b>			
ENS.511C	Environmental Pollution	4	
ENS.512C	Forest and Wild Life Ecology	4	
ENS.513C	Laboratory Practical and field studies on ENS 511C and 512 C	3	
ENS.514C	Environmental Toxicology	4	
ENS.515C	Disaster Management	4	
ENS.516C	Laboratory Practical & field studies on ENS 514 C and 515C	3	<b>22</b>
<b>Fourth Semester</b>			
ENS 521C	Limnology	4	
ENS 522C	Environmental Law and Society	4	
ENS 523 C	Laboratory Practical & field studies on ENS 522 C	3	
<b>Specialisation</b>	A student shall opt for one of the following groups		
<b>GROUP- A</b>	<b>Pollution Control and Environmental Biotechnology</b>		
ENS.524 E	Pollution Control and Management	4	
ENS.525 E	Environmental Biotechnology	4	
ENS 526 E	Laboratory Practical and field studies relating to ENS.524 E & 525 E	3	
<b>GROUP- B</b>	<b>Soil Biology and Biotechnology</b>		
ENS 527 E	Soil Biology and Ecology	4	
ENS 528 E	Soil Biotechnology	4	
ENS 529 E	Laboratory Practical and Field studies on ENS 526 E & 527 E	3	<b>22</b>
	<b>TOTAL CREDIT HOURS</b>		<b>90</b>

Questions will be asked from each unit with 50% choice for the students from each unit. The students shall be asked to answer four questions. A maximum of 50% of the questions should be of objective and short answer type. Full mark in each theory paper shall be 100 to be finally scaled down to Grade Point and the examination will be of 3 hrs duration. Practical Experiments and Fields projects will be designed by the concerned course teachers.

**M. Tech. Programme**  
in  
**Environmental Science and Engineering**

**COURSES OF STUDY**  
(Batch 2018-2020)



**P. G. Department of Environmental Sciences**  
(Autonomous)  
**SAMBALPUR UNIVERSITY**  
Jyoti Vihar-768019, Sambalpur, Odisha





**SAMBALPUR UNIVERSITY**  
**P.G.DEPARTMENT OF ENVIRONMENTAL SCIENCES**  
**(Autonomous)**  
**JYOTI VIHAR-768 019, ODISHA**

**A: REVISED COURSE STRUCURE AND CREDIT HOUR DISTRIBUTION IN**  
**M.TECH. IN ENVIRONMENTAL SCIENCE AND ENGINEERING**  
**(Batch 2018-2020)**

**FIRST SEMESTER**

Core Course No.	Title of the Course	Credit Hours
ESE 611	Fundamentals of Ecology and Environmental Sciences	3
ESE 612	Environmental Chemistry, Pollution and Control	3
ESE 613	Environmental Policies and Laws	3
ESE 614	Environmental Microbiology	3
ESE 615	Environmental Toxicology	3
ESE 616	Laboratory: Environmental Monitoring I	3
ESE 617	Seminar presentation	2
<b>Total Credit hours</b>		<b>20</b>

**SECOND SEMESTER**

Core Course No.	Title of the Course	Credit Hours
ESE 621 A	Instrumental Techniques and application in Environmental Science and Engineering	3
ESE 621 B	Advanced Applied Statistics ,Environmental System Optimization and modelling	3
ESE 622 A	Environmental Impact Assessment, Environmental Audit and Environmental Management System Standards	3
ESE 622 B	Hazards Control and Management in Industries	3
ESE 623 A	Air Quality Management	3
ESE 623 B	Remote Sensing and Geographical Information System	3
ESE 623 C	Industrial Safety and Management	3
ESE 624	Laboratory: Environmental Monitoring II	3
ESE 625	Seminar Presentation	2
<b>Elective Course</b>	A student shall have the option to choose any one of the following groups of Elective Course consisting of two papers, each of 3CH	
	<b>GROUP I: Pollution Control and Management in Mining Industries</b>	
ESE 626 A	Environmental Aspects of Mining Industries	3
ESE 626 B	Solid and Hazardous Waste Management and Land Reclamation	3

<b>GROUP II: Hydrology and Waste Water Engineering</b>		
ESE 627 A	Hydrology	3
ESE 627 B	Waste Water Engineering	3
<b>GROUP III: Environmental Geology and Remote Sensing</b>		
ESE 628 A	Environmental Geology	3
ESE 628 B	Remote Sensing and Geographical Information System	3
<b>GROUP IV: Green Technology and Management</b>		
ESE 629 A	Green Technology and Sustainable Development	3
ESE 629 B	Soil Pollution and Waste Management	3
<b>Total Credit hours</b>		<b>20</b>

A candidate shall select any one elective paper each under ESE 621, ESE 622 & ESE 623

- At the end of Second Semester, each student shall undergo one month summer training in an Industrial Establishment or Scientific Institution or any other organization and submit a Project Report on the activities for evaluation during Third Semester. The student may, in lieu of summer training, work on a minor project and submit the report for evaluation during the third semester.
- From the beginning of the third Semester, a student shall work on a dissertation under the supervision of a suitable Guide from the P.G. Departments or outside including Scientists and Technocrats from Industries and Corporate Sectors with the approval of the Academic Committee. The dissertation will be evaluated both during Third semester (Interim) and Fourth Semester. The student will read a paper on Research Methodology (ESE-713)
- ENS 623 B can only be opted by students who do not offer Environmental Geology and Remote Sensing group of Specialization

### THIRD SEMESTER

<b>Course No.</b>	<b>Title of the Course</b>	<b>Credit Hours</b>
ESE 711	Research Methodology	4
ESE 712	Evaluation of Summer Training Report/Minor Project Report	4
ESE 713	Seminar and Viva-Voce on Summer Training Report/Minor Project Report	4
ESE 714	Evaluation of Dissertation(Interim) ,Seminar and Viva-Voce	8
<b>Total Credit Hours</b>		<b>20</b>

### FOURTH SEMESTER

<b>Course No.</b>	<b>Title of the Course</b>	<b>Credit Hours</b>
ESE 721	Evaluation of Dissertation	12
ESE 722	Seminar on Dissertation	4
ESE 723	Viva-Voce on dissertation	4
<b>Total Credit Hours</b>		<b>20</b>

**Total Credit Hours of all the four Semesters-80**

**REVISED SYLLABUS FOR 2 YEARS M.TECH. DEGREE IN**

**COURSE STRUCTURE AND SYLLABUS FOR  
M.PHIL IN ENVIRONMENTAL SCIENCES  
( 2018)**

**COURSE STRUCTURE**

**Semester I**

ENS 611 -	Environmental Impact Assessment, Environmental Audit Environmental Management System Standards(EIA, EA & EMSS)	4 CH
ENS 612 -	Any one of the following	4 CH
	A- Green Technology for Sustainable Development (GTSD)	4 CH
	B- Remote Sensing and GIS	4 CH
	C- Environmental Monitoring and Ecotoxicology	4 CH
ENS 613 -	Research Methodology (Quantitative Analysis and Computer Application)	4 CH
ENS 614 -	Lab Methods & Field Practicals	4 CH
ENS 615 -	Review of Research papers published in referred journals	4 CH
	Review Report -2 CH	
	Seminar -2 CH	
		<b>Total 20 CH</b>

**Semester II**

ENS- 621- Seminar (At least two)	2 CH
ENS- 622 - Dissertation (Interim 8 CH + Final 10 CH)	18 CH
	<b>Total 20 CH</b>

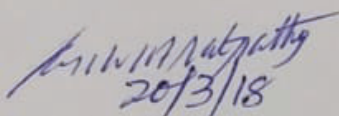
Proceeding of the Meeting of the Academic Committee of M.Tech. Programme in Food Science & Technology, M.Sc. Programme in Food Science and Ph.D in Food Science and Technology held on dated. 20.03.2018 at 2.00pm in the office of the Coordinator , P.G. Dept. of Food Science Technology and Nutrition (Centre for Food Science &Technology).

### Members Present

- |                          |   |
|--------------------------|---|
| 1. Prof. B. Satpathy     | Chairman PG Council/ HOD ,PGFSTN                      |
| 2. Dr. Binata Nayak      | Coordinator,PGFSTN                                    |
| 3. Prof.Pradeep Ku. Naik | Department of Biotechnology and Bio-informatics, S.U. |
| 4. Er.S.Parida           | Lecturer,PGFSTN                                       |
| 5. Er.A.Priyadarshini    | Lecturer , PGFSTN                                     |

### Business Transacted

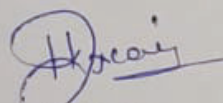
1. The Academic committee members revised M.Tech. FST syllabus and M.Sc. FSN syllabus was designed (detail syllabus is attached separately). They discussed and recommended the list of resource persons (**Appendix-I**) (both outside and local) for the second semester & Ph.D. course work (**Appendix-IV**).
2. The Academic Committee discussed and recommended the list of paper setters, Examiners, members of Moderation Board (**Appendix-III**), name of the Tabulator for the M.Tech. FST (**Appendix-IIA & Appendix-IIC**), M.Sc. FS (**Appendix-IIB & Appendix-IID**) second & fourth Semester examination in M.Tech FST &M.Sc. FS for 2017-18 respectively. The committee also discussed and recommended the list of paper setters (**Appendix-V**) and examiners, prepared by the co-ordinator for the Ph.D. course work 2018.
3. The meeting ended with a Vote of thanks by the co-ordinator to all the member of this academic committee.

  
20/3/18

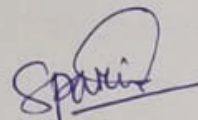
(B.Satpathy )



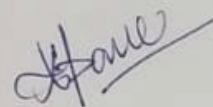
(B.Nayak)



(P.Naik)

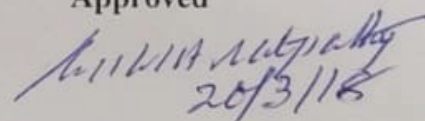


(S.Parida)



(A.Priyadarshini)

Approved

  
20/3/18

(Vice-Chancellor)

# **M.Sc. in Food Science**

## **SYLLABUS (2018-19)**



**CENTER FOR FOOD SCIENCE &  
TECHNOLOGY**

**SAMBALPUR UNIVERSITY**

**JYOTI VIHAR**

**Courses of Studies for the M. Sc. Food Science Examination**  
**(Under Course Credit Semester System)**  
**Effective from First Semester Examination, 2018-19**

**FIRST SEMESTER**

Course No.	Title	Credit Hour
FS. 411	Food and Food products	4 (Theory)
FS. 412	Food Microbiology	4 (Theory)
FS. 413	Food Chemistry	4 (Theory)
FS. 414	Basic Concepts of Nutrition	4 (Theory)
FS. 415	Practical related to 411&412	4 (Practical)
FS. 416	Practical related to 413&414	4 (Practical)
NON-CREDIT/ADD-ON	ANYONE:	00

1. Soft and IT Skills
  2. Leadership/Personality Development
- Total**

**24**

**SECOND SEMESTER**

Course No.	Title	Credit Hour
FS. 421	Food ingredients, Additives and Nutraceuticals	4 (Theory)
FS. 422	Techniques in Food Analysis	4 (Theory)
FS. 423	Food Safety and Quality Control	4 (Theory)
FS. 424	Food Processing and Preservation	4 (Theory)
FS. 425	Practical related to 421 & 422	4 (Practical)
FS. 426	Practical related to 423 & 424	4 (Practical)

**Total**

**24**

**THIRD SEMESTER**

Course No.	Title	Credit Hour
FS. 511	Food Packaging and Post harvest Technology	4 (Theory)
FS. 512	Statistical Methods in Food Science	4 (Theory)
FS. 513	Food Biotechnology & By-product Utilization	4 (Theory)
FS. 514	Elective Paper( Any one)	4 (Theory)
	(a) Beverages, Bakery and Snacks food technology	
	(b) Dairy Technology	
	(c) Food Engineering	
	(d) <b>Nutrition and Dietetics</b>	
FS. 515	Practical related to all theory papers	4 (Practical)
FS. 516	<b>Seminar-I</b>	2
NON-CREDIT/ADD-ON	ANYONE:	00

1. Communicative English
  2. Entrepreneurship and Development
- Total**

**22**

**FOURTH SEMESTER**

Course No.	Title	Credit Hour
FS. 521	Term paper/Review paper	2
FS. 522	Final Dissertation & Viva-voice	12+2
FS. 523	Seminar-II	2
FS. 524	Industrial Tour Report	2
<b>Total</b>		<b>20</b>

**COURSE CONTENT**  
**M.TECH PROGRAMME IN FOOD SCIENCE & TECHNOLOGY**  
**Effective from the Academic session 2018-2019**

Course No.	Title of the Course	Credit Hours
<b>FIRST SEMESTER</b>		
FST-611	Food processing & Post harvest Technology	04
FST-612	Food Engineering-I ( Upstream Processing of foods)	04
FST-613	Food Microbiology & Fermentation Technology	04
FST-614	Statistical Methods in Food Science	04
FST-615	Practicals Related to FST-611 & FST-612	04
FST-616	Practicals Related to FST-613 & FST-614	04
	Total Credits	24
<b>SECOND SEMESTER</b>		
FST-621	Food Chemistry and Analysis	04
FST-622	Food Engineering-II (Downstream Processing of foods)	04
FST-623	Marketing and Quality of Food products	04
FST-624	Elective Paper ( Any One)	04
	a. Technology of Dairy Products b. Functional foods c. Bakery and Confectionary Technology d. Beverages and Snacks food Technology	
FST-625	Practicals Related to FST-621	04
FST-626	Practicals Related to FST-622	04
	Total Credits	24
<b>THIRD SEMESTER</b>		
FST-711	Term Paper	04
FST-712	Industrial Tour Report	04
FST-713	Seminar-I	04
FST-714	Interim Project Report	08
	Total Credits	20
<b>FOURTH SEMESTER</b>		
FST-721	Project Report Presentation and Evaluation	15
FST-722	Seminar-II	04
FST-723	Comprehensive Viva-voce	03
	Total Credits	22
	<b>Total Course Credits</b>	<b>90</b>



पाठ्यक्रम  
SYLLABUS

एम.फिल  
M.PHIL  
कार्यक्रम  
PROGRAMME  
हिन्दी  
HINDI

संबलपुर विश्वविद्यालय

**SAMBALPUR UNIVERSITY**

ज्योति विहार, बुर्ला, संबलपुर, ओड़िशा(भारत)-768019

Jyoti Vihar, Burla, Sambalpur, Odisha(India)-768019



**SYLLABUS**  
**M.PHIL PROGRAMME IN HINDI**  
**SAMBALPUR UNIVERSITY**

**HNC 611(Paper-I)**

- |  |           |
|--|-----------|
| 1. प्रत्येक Unit से कुल 8 प्रश्न पूछे जायेंगे। इसमें से चार का उत्तर देना अनिवार्य है। | 15x4= 60  |
| 2. आंतरिक परीक्षा  | 20        |
| 3. सेमीनार   | <u>20</u> |
|  | कुल 100   |

**HNC 612(Paper-II)**

- |  |           |
|--|-----------|
| 1. प्रत्येक Unit से कुल 8 प्रश्न पूछे जायेंगे। इसमें से चार का उत्तर देना अनिवार्य है। | 15x4= 60  |
| 2. आंतरिक परीक्षा  | 20        |
| 3. सेमीनार   | <u>20</u> |
|  | कुल 100   |

**HNC 613(Paper-III)**

- |  |           |
|--|-----------|
| 1. प्रत्येक Unit से कुल 8 प्रश्न पूछे जायेंगे। इसमें से चार का उत्तर देना अनिवार्य है। | 15x4= 60  |
| 2. आंतरिक परीक्षा  | 20        |
| 3. सेमीनार   | <u>20</u> |
|  | कुल 100   |

**HNC 611**  
**Paper-I**

60+20+20=100

**Unit-I**

- (क) हिन्दी साहित्य की वैचारिक पृष्ठभूमि
- (i) विचारधारा और साहित्य
  - (ii) मध्ययुगीन बोध का स्वरूप
  - (iii) आधुनिक बोध की तुलना

**Unit-II**

- (i) विभिन्न धर्म संप्रदाय और वैष्णव धर्म आंदोलन
- (ii) आधुनिकता बोध और औद्योगिकी की संस्कृति

**Unit-III**

- (i) पुनर्जागरण, पुनरुत्थान और हिन्दी लोक जागरण
- (ii) विशिष्ट मतवाद - आध्यात्मवाद, गांधीवाद, मार्क्सवाद, मनोविक्षेपणवाद, अस्तित्ववाद

**Unit-IV**

- (i) परंपरा और आधुनिकता
- (ii) राष्ट्रीय स्वतंत्रता आंदोलन

**Unit-V**

- (क) भारतीय संविधानिक व्यवस्था
- (i) लोकतंत्र, समाजवाद, धर्मनिरपेक्षता, दलित चेतना, आंचलिकता और महानगरबोध
  - (ii) साहित्य का अंतः विध्यपरख अध्ययन

साहित्य का समाजशास्त्र, इतिहास-दर्शन, मानव विज्ञान, भाषा वैज्ञानिक अध्ययन, वैज्ञानिक बोध

संदर्भ ग्रंथ-

- हिन्दी साहित्य की वैचारिक पृष्ठभूमि - विनय कुमार पाठक, चिल्ड्रन बूक बैंक,  
दलित साहित्य की वैचारिक पृष्ठभूमि - जनार्दन बाघमरे,  
हिन्दी साहित्य का इतिहास - आचार्य रामचंद्र शुक्ल, नागरी प्रचारणी सभा, काशी  
हिन्दी साहित्य का इतिहास - डॉ. नगेंद्र  
हिन्दी साहित्य का आदिकाल - डॉ. हजारी प्रसाद द्विवेदी, पटना  
हिन्दी साहित्य का दूसरा इतिहास - डॉ. बच्चन सिंह, राजकमल प्रकाशन, दिल्ली  
हिन्दी आलोचना के आधार स्तंभ - रामेश्वर खंडेलवाल, सुरेशचंद्र गुप्त

**HNC 612**

**Paper-II**

60+20+20=100

Unit-I

(क) साहित्योतिहास लेखन

- (i) परिभाषा
- (ii) स्वरूप
- (iii) घटक

Unit-II

(क) हिन्दीतर भाषी क्षेत्र में साहित्योतिहास लेखन

- (i) समस्या और समाधान

Unit-III

(क) हिंदी साहित्योतिहास लेखन की समस्याएँ : काल विभाजन एवं नामकरण

(i) आदिकाल

सामान्य प्रवृत्तियाँ, परिस्थितियाँ, प्रमुख कवि और उनकी कृतियाँ

(ii) भक्ति काल

सामान्य प्रवृत्तियाँ, परिस्थितियाँ, प्रमुख कवि और उनकी कृतियाँ

(iii) रीतिकाल

सामान्य प्रवृत्तियाँ, परिस्थितियाँ, प्रमुख कवि और उनकी कृतियाँ  
रीतिबद्ध, रीति सिद्ध, रीतिमुक्त

Unit-IV

(क) आधुनिक हिंदी साहित्य की विभिन्न विधाएँ

- (i) काव्य और कविता, उपन्यास, कहानी, नाटक, निबंध, आलोचना, संस्मरण, रेखाचित्र, जीवनी, रिपोर्ताज, फीचर लेखन, लघु कथा

Unit-V

(क) भाषा विज्ञान एवं प्रयोजनमूलक हिन्दी

- (i) भाषा विज्ञान एवं हिन्दी भाषा
- (ii) ध्वनि विज्ञान
- (iii) प्रोक्ति विज्ञान
- (iv) अर्थ विज्ञान

(ख) कार्यालयी हिन्दी

- (i) आलेखन, टिप्पण, संक्षेपण, पल्लवन
- (ii) अनुवाद एवं पत्र लेखन

Unit-VI

(क) काव्यशास्त्र एवं समीक्षा सिद्धांत

- (i) भारतीय काव्यशास्त्र  
रस, अलंकार, छन्द
- (ii) पाश्चात्य काव्यशास्त्र  
प्लेटो, अरस्तु, लॉगिनुस, क्रोच
- (iii) पाश्चात्य काव्य सिद्धांत - कालरिज, मैथू, क्रोचे
- (iv) भारतीय एवं पाश्चात्य समीक्षा सिद्धांत

संदर्भ ग्रंथ-

- हिन्दी साहित्य का इतिहास - आचार्य रामचंद्र शुक्ल, नागरी प्रचारणी सभा, काशी
- हिन्दी साहित्य का इतिहास - डॉ. नगेंद्र
- हिन्दी साहित्य का आदिकाल - डॉ. हजारी प्रसाद द्विवेदी, पटना
- हिन्दी साहित्य का दूसरा इतिहास - डॉ. बच्चन सिंह, राजकमल प्रकाशन, दिल्ली
- भारतीय प्रेमाख्यान परंपरा - डॉ. संध्या वात्सायन, संजय प्रकाशन, दिल्ली
- भाषा विज्ञान - डॉ. भोलानाथ तिवारी, किताब महल, इलाहाबाद
- आधुनिक भाषा विज्ञान - डॉ. राजमणि शर्मा
- भाषा विज्ञान की भूमिका - देवेन्द्र नाथ शर्मा
- भाषा विज्ञान प्रवेशिका एवं हिन्दी भाषा - जयंती प्रसाद नौटियाल
- भारतीय भाषा विज्ञान - आचार्य किशोरीलाल वाजपेयी
- भाषा विज्ञान, हिन्दी भाषा और लिपि - डॉ. रामकिशोर शर्मा
- भाषा विज्ञान की रूपरेखा - डॉ. रविदत्त कौशिक, संजय प्रकाशन, दिल्ली
- भारतीय काव्यशास्त्र - डॉ. विश्वभरनाथ उपाध्याय, वाणी प्रकाशन, नईदिल्ली
- रस सिद्धांत और सौंदर्यशास्त्र - डॉ. निर्मल जैन, वाणी प्रकाशन, नईदिल्ली
- भारतीय काव्य विमर्श - राममूर्ति त्रिपाठी, वाणी प्रकाशन, नईदिल्ली
- काव्यशास्त्र - डॉ. भगीरथ मिश्र, विश्वविद्यालय प्रकाशन, वारणासी
- आधुनिक हिन्दी काव्य में प्रवृत्तिमूलक दार्शनिकता - सुशीला गुप्ता, लोकभारती प्रकाशन, इलाहाबाद
- साहित्य शास्त्र और हिन्दी आलोचना - सभापति मिश्र, ग्रीन वर्ल्ड पब्लिकेशन, इलाहाबाद

HNC 613

Paper-III

60+20+20=100

Unit-I

(क) अनुसंधान की प्रविधि एवं प्रक्रिया

- (i) अनुसंधान की अवधारणा
- (ii) अनुसंधान और आलोचना
- (iii) अनुसंधान के प्रकार

Unit-II

(क) अनुसंधान पद्धतियाँ

- (i) आगमन, निगमन, मिश्रित
- (ii) अनुसंधान में विषय की विविधता
- (iii) विषय निर्वाचन तथा सामग्री संकलन

Unit-III

(क) प्रबंध लेखन

- (i) भूमिका, शोध कार्य के संदर्भ
- (ii) शोध कार्य का विभाजन, अध्ययन, उपशीर्षक
- (iii) रूपरेखा, विषय सूची, प्रस्तावना, भूमिका, सहायक ग्रंथ सूची, संदर्भ लेखन, पाद टिप्पणी

Unit-IV

(क) साहित्यिक अनुसंधान में साहित्यिक तत्वों का उल्लेख

- (i) पाठालोचन - स्वरूप और विस्तार
- (ii) पाठ्यक्रम के मुख्य सिद्धांत
- (iii) हिंदी में अनुसंधान की परंपरा
- (iv) कंप्यूटर की अवधारणा
- (v) हार्डवेयर, सॉफ्टवेयर, कंप्यूटर नेटवर्क, टंकण, देवनागरी लिपि में टंकण
- (vi) कंप्यूटर की भाषा, प्रकार, स्विचऑफ-ऑन, प्रोटोकॉल, आई.पी. एड्रेस

संदर्भ ग्रंथ-

- अनुसंधान प्रविधि सिद्धांत और प्रक्रिया - एसएन गणेशन, लोकभारती प्रकाशन, इलाहाबाद  
अनुसंधान का स्वरूप - डॉ. सावित्री सिन्हा, आत्माराम एंड संस  
हिन्दी अनुसंधान के आयाम - भा. डॉ. राजूरकर, डॉ. राजमल बोरा, राजपाल एंड संस, दिल्ली  
शोध और सिद्धांत - डॉ. नगेंद्र  
अनुसंधान की समस्याएँ - ओमप्रकाश, आर्य बूक डीपो, दिल्ली  
शोध : स्वरूप एवं मानक व्यावहारिक कार्य विधि-बैजनाथ सिंहल, वाणी प्रकाशन, नयीदिल्ली  
साहित्यिक अनुसंधान के आयाम - रवीन्द्र कुमार जैन, नेशनल पब्लिशिंग हाउस, दिल्ली  
शोध प्रविधि - विनय मोहन शर्मा, नेशनल पब्लिशिंग हाउस, दिल्ली  
पाठालोचन - डॉ. मिथिलेश कांति एवं डॉ.विमलेशर कांति , नवीनतम प्रकाशन, दिल्ली  
पाठ संपादन के सिद्धांत - कन्हैया सिंह  
कंप्यूटर प्रोग्रामिंग: सिद्धांत और तकनीक- राजीव राजेंद्र कुमार, दिल्ली साहित्य मंदिर  
कंप्यूटर और हिंदी - हरिमोहन, तक्षशीला प्रकाशन  
The Elements of Research - Whitney, Frederik Lamson

**HNC 614**

**Paper-IV**

100

**Practice or field study or essay course**( अभ्यास/कार्य/ क्षेत्र अध्ययन/निबंध लेखन)

किसी अंग्रेजी/ओड़िया उपन्यास, कहानी, नाटक, निबंध आदि पुस्तक से 4,000 से 5,000 शब्दों का हिन्दी में अनुवाद प्रस्तुत करना होगा ।

**HNC 615**

**Paper-V**

100

Review on research paper published in referred journals, review, report and seminar.  
पुस्तक एवं पत्र पत्रिकाओं में प्रकाशित आलेखों पर संगोष्ठी एवं पुनराध्ययन

**2nd Semester**

**HNC 621**

**Seminar(सेमिनार) (At least Two)**

100

एम.फिल के सभी विद्यार्थियों को आलेख प्रस्तुत करना होगा तथा इसकी आलोचना पर भाग लेना होगा।

**HNC 622**

**Dissertation (लघु शोध प्रबंध)**

100

इसके अंतर्गत लगभग 100 टंकित पृष्ठों का लघु शोध प्रबंध परीक्षा हेतु प्रस्तुत किया जाएगा। विषय का आवंटन विश्वविद्यालय के हिन्दी विभाग द्वारा किया जाएगा। विभाग ही विशेषज्ञ/निदेशक की व्यवस्था करेगा। इस लघु शोध प्रबंध का मूल्यांकन 100 अंकों में से वाह्य विशेषज्ञ/परीक्षक द्वारा कराया जाना अभीष्ट है।

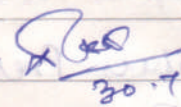
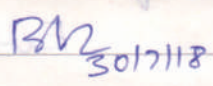

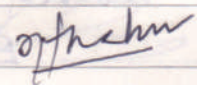
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Academic Committee Meeting held on 30/7/18

Proceedings:-

The Academic Committee met on 30/7/18 at 11 A.M and approved the Syllabus <sup>of H.A</sup> for the session 2018-20.

Members Present-

- 1) Prof. D. Choudhary (External) -   
30.7.18
- 2) Dr. B. Pradhan - H.O.D. -   
30/7/18
- 3) Dr P. K. Behera - 
- 4) Dr (Mrs) Neena Thakur - 



# **SEMESTER SYLLABUS**

**M.A. HISTORY (2018-2020)**

**Choice Based Credit System**



**P.G. DEPARTMENT OF HISTORY**

**SAMBALPUR UNIVERSITY**

**JYOTI VIHAR-768019**

**SAMBALPUR, ODISHA**

P.G. DEPARTMENT OF HISTORY (Autonomous),  
SAMBALPUR UNIVERSITY  
**SYLLABUS FOR M.A. HISTORY (at a glance)**

<u>Course No.</u>	<u>Title of the Course</u>	<u>Marks</u>	<u>Cred.Hrs.</u>
FIRST SEMESTER			
H 4.1.1	Indian Civilisation (From 3 <sup>rd</sup> Millennium BCE– 1526 A.D)	100	4
H 4.1.2	Indian Civilisation (A.D. 1526-1950)	100	4
H 4.1.3	Landmarks in Odishan History (From 4 <sup>th</sup> C. BCE-1568 AD)	100	4
H 4.1.4	Landmarks in Odishan History (A.D. 1568-1950)	100	4
H 4.1.5	Term Paper and Viva Voce	100	6
H 4.1.6	Add on non-credit course (Optional)		NC
<i>Total of First Semester</i>		<b>500</b>	<b>22</b>
SECOND SEMESTER			
H 4.2.1	World in 20 <sup>th</sup> Century (A.D. 1914-1950)	100	4
H 4.2.2	World in 20 <sup>th</sup> Century (A.D. 1950-1995)	100	4
H 4.2.3	Concept of History and Historiography	100	4
H 4.2.4	Research Methodology	100	4
H 4.2.5	Term Paper and Viva Voce	100	6
<i>Total of Second Semester</i>		<b>500</b>	<b>22</b>
Compulsory			
THIRD SEMESTER			
H 5.1.1	Heritage of Art and Architecture in Indian Context	100	4
H 5.1.2	Historical Application in Tourism (Tourism Principle and Practice)	100	4
<b>Special Papers (A or B or C or D)</b>			
H 5.1.3 (A)	Archaeological Culture and Sequence in Indian Perspective	100	4
H 5.1.4 (A)	Indian Epigraphy	100	4
H 5.1.3 (B)	Introduction to Museology	100	4
H 5.1.4 (B)	Indian Epigraphy	100	4
H 5.1.3 (C)	Social Structure	100	4
H 5.1.4 (C)	State of Economy	100	4
H 5.1.3 (D)	State of Economy	100	4
H 5.1.4 (D)	Religion	100	4
H 5.1.5 Comp.	Computer Application in Historical Studies	100	4
H 5.1.6	Add on non-credit course (Optional)		NC
<i>Total of Third Semester</i>		<b>500</b>	<b>20</b>



Compulsory

FOURTH SEMESTER

H 5.2.1	Heritage of Art and Architecture in Odishan Context	100	4
H 5.2.2	Historical Application in Tourism (History as Tourism Product)	100	4

**Special Papers (A or B or C or D)**

H 5.2.3 (A)	Principles and Methods of Archaeology	100	4
H 5.2.4 (A)	Indian Numismatics	100	4
H 5.2.3 (B)	Museums and Application	100	4
H 5.2.4 (B)	Indian Numismatics	100	4
H 5.2.3 (C)	Religion and Philosophy	100	4
H 5.2.4 (C)	Literature	100	4
H 5.2.3 (D)	Social Structure	100	4
H 5.2.4 (D)	Literature	100	4
H 5.2.5 Comp.	Term Paper and Seminar	100	10

*Total of Fourth Semester*

**500 26**

*TOTAL COURSE*

**2000 90 CH**

**A:** *ARCHAEOLOGY*

**C:** *CULTURAL HISTORY OF INDIA*

**B:** *MUSEOLOGY*

**D:** *CULTURAL HISTORY OF ODISHA*

Proceedings of the meeting of the Board of Studies in Home Science

Held at 12.00 on date 27.03.2018 in the Administrative Building of the University.

**MEMBER PRESENT:-**

- |                            |     |
|----------------------------|-----|
| 1. Dr. Chandrasekhar Lenka | 7.  |
| 2. Dr. Sunanda Nayak       | 8.  |
| 3. Basanti Pradhan         | 9.  |
| 4. Dr. P.K. Behera         | 10. |
| 5.                         | 11. |
| 6.                         | 12. |

**BUSINESS TRANSACTED:-**

1. Sri/Dr./Prof. Chandrasekhar Lenka (Dean/Add.) HOD, P.G. Department of Home Science has been elected as the Chairman of the Board for the current academic session 2017-18.
2. Recommended the lists of Examiners, Paper Setters, Moderators and members of the Conducting Board for the following Examinations separately.
  - i) All relevant examinations to be held during 2018-19
  - ii)
  - iii)
  - iv)
  - v)
3. Recommended the list of Indian and Foreign Examiners for evaluating of Ph.D. Thesis of the following candidates separately.
  1. Mrs. Debasmita Barik
  - 2.
  - 3.
  - 4.
  - 5.

(During consideration of examiners in respect of Sl. No. \_\_\_\_\_

Sri/Dr. \_\_\_\_\_

\_\_\_\_\_ respectively remained absent in the meeting)

4. Recommended no change/minor change/in the **Syllabus, Revised Syllabus** for the following examinations as in appendix \_\_\_\_\_ enclosed.

- 1 - Recommended ~~Revised~~ Revised U.G. syllabus as in Appendix - A
- 2 - Recommended revised PG. Syllabus as in Appendix - B
- 3 - Recommended revised M.Phil. Syllabus as in Appendix - C
- 4 - Recommended syllabus for new course title M.A./M.Sc

5. Recommended the following modification/amendments in the regulation for Examinations:-

Home science (Food ~~Science~~ and Nutrition) as in Appendix - D  
 Course will be regulated <sup>as per</sup> <sub>in</sub> existing PG. regulation

Appendices will be submitted by the chairman after checking of the typographical error.

SIGNATURE OF THE MEMBERS PRESENTS.

Belera  
27.3.18

Chauhan  
27.3.18

Sharma  
27.3.18

Sharma  
27.3.18

# **M.A/M.Sc in Home Science**

## **(Food & Nutrition)**

**SYLLABUS (2018-20)**



**P.G. DEPARTMENT OF HOME SCIENCE**  
**SAMBALPUR UNIVERSITY**  
**JYOTI VIHAR**

**Courses of Studies for the M.A/ M.Sc Home Science (Food & Nutrition)****Examination(Under Course Credit Semester System)Effective from First Semester Examination, 2018-20**

<b>1st Semester</b>		
Course No.	Title	Credit Hour
HSC. 411	Research Methodology	4 (Theory)
HSC. 412	Advance Food Science & Nutrition	4 (Theory)
HSC. 413	Nutrition through life cycle	4 (Theory)
HSC. 414	Environmental Management	4 (Theory)
HSC. 415	Practical related to 411&412	2 (Practical)
HSC. 416	Practical related to 413&414	2 (Practical)
	<b>Total</b>	<b>20</b>
<b>IIrd Semester</b>		
Course No.	Title	Credit Hour
HSC. 421	Institutional Food Management	4 (Theory)
HSC. 422	Statistics & Computer Application	4 (Theory)
HSC. 423	Guidance & Counselling	4 (Theory)
HSC. 424	Nutrition Communication for Health promotion	4 (Theory)
HSC. 425	Practical related to all the theory papers	3 (Practical)
HSC. 426	Writing of Term Paper & Seminar	1
	<b>Total</b>	<b>20</b>
<b>IIIrd Semester</b>		
Course No.	Title	Credit Hour
HSC. 511	Therapeutic Nutrition	4 (Theory)
HSC. 512	Nutritional Biochemistry	4 (Theory)
HSC. 513	Food Microbiology & Food safety	4 (Theory)
HSC. 514	Programme Planning in Public Health Nutrition	4 (Theory)
HSC. 515	Practical related to all the theory papers	2 (Practical)
HSC. 516	Dissertation (Writing of Synopsis & Field Work)	2
	Presentation through a seminar (to be completed in IVth Semester)	
	<b>Total</b>	<b>20</b>
<b>IVth Semester(A candidate has to select any three elective theory papers)</b>		
Course No.	Title	Credit Hour
HSC. 521	Public Health Nutrition	4 (Theory elective)
HSC. 522	Public Health Aspect of Malnutrition	4 (Theory elective)
HSC. 523	Advance Clinical nutrition	4 (Theory elective)
HSC. 524	Entrepreneurship in Food Service	4 (Theory elective)
HSC. 525	Food Processing	4 (Theory elective)
HSC. 526	Seminar	6
HSC. 527	Dissertation	2
	<b>Total</b>	<b>20</b>

**Instruction to Paper Setters**

1. In theory papers questions will be set unit-wise with 2 questions from each unit (total 8 questions).The students shall answer any one question from each unit.

2.60% of the questions shall be long-answered type and 40% short-answered type

SAMBALPUR UNIVERSITY: JYOTI VIHAR: BURLA  
SAMBALPUR, ODISHA-768019

Proceedings of the meeting of the Board of Studies in LAW

Held at 9.30 A.M. on date 12.04.2018 in the Statistics Hall of the University under the Chairmanship of

**MEMBER PRESENT:-**

1. Dr. S.K. Mohapatra 7.
2. Dr. B.N. Behera 8.
3. Dr. B.K. Das 9.
4. Dr. L.K. Das 10.
5. S.P. Dasena 11.
6. 12.

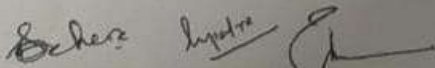
**BUSINESS TRANACTED:-**

**Recommended revised syllabuses for :-**

- (i) LL.B 3 years Course
- (ii) B.A, LL.B (H) 5 years Course
- (iii) B.B.A, LL.B (H) 5 years Course
- (iv) LL.M 2 years Course
- (v) M.Phil in Law Course

**Recommended revised Regulation for :-**

- (i) LL.B 3 years Course
- (ii) B.B.A, LL.B (H) 5 years Course



SIGNATURE OF THE MEMBERS PRESENTS.

Other recommendations, if any may be mentioned on overleaf.

P.T.O

## COURSES OF STUDIES FOR MASTER OF LAW EXAMINATIONS

Session -2018-2019

LL.M course credit semester system with grading evaluation system

FIRST SEMESTER LL.M. EXAMINATIONS: December

SECOND SEMESTER LL.M. EXAMINATIONS: April

THIRD SEMESTER LL.M. EXAMINATIONS: December

FOURTH SEMESTER LL.M. EXAMINATIONS: April

The First and Third Semester shall cover the period from June to December of the academic session and the Second and the Fourth semester shall cover the period from December to May of the subsequent academic session. The regular courses of studies for the LL.M Semester examination shall consist of four semesters comprising of 80 credits. Each semester shall consist of four theory papers, each of three hours examination duration. First semester shall comprise Seminar-I(4 credits),the Second shall comprise Seminar-II(4 credits), the Third semester shall comprise Dissertation (4 credits) and the Fourth semester shall comprise of law teaching (4 credits).There shall be five papers in each semester, each with four credits.

Besides, in each Semester there shall be non-credit course (without examination) equivalent to Four Credit hours teaching. Non-credits course on Judicial Process shall comprise of 4 papers: First, semester Judicial Process-I(Judicial Structure), Second Semester-Judicial Process-II(Decision making process of judiciary), Third Semester - Judicial Process-III(Civil Procedure) and Fourth Semester-Judicial Process-III(Evidence)

## LL.M COURSE STRUCTURE w.e.f 2018 - 2019 Academic Session

<b>FIRST SEMESTER LL.M. EXAMINATIONS:</b>	<b>December</b>
<b>SECOND SEMESTER LL.M. EXAMINATIONS:</b>	<b>April</b>
<b>THIRD SEMESTER LL.M. EXAMINATIONS:</b>	<b>December</b>
<b>FOURTH SEMESTER LL.M. EXAMINATIONS:</b>	<b>April</b>

### **FIRST SEMESTER (June to December)**

LL.M.C- 411 Jurisprudence - I	4 Credits
LL.M.C- 412 Indian Constitutional law-I	4 Credits
LL.M.C- 413 Human Rights-I	4 Credits
LL.M.C- 414 Legal Research & Teaching Aptitude	4 Credits
LL.M.C- 415 Seminar-I	4 Credits
Total 20 Credits	

**1st semester- Non- Credit Course - Judicial Process -I (Judicial Structure)**

### **SECOND SEMESTER (January to May)**

LL.M.C- 421 Jurisprudence-II	4 Credits
LL.M.C- 422 Indian Constitutional law-II	4 Credits
LL.M.C- 423 Human Rights-II	4 Credits
LL.M.C- 424 Law and Social transformation	4 Credits
LL.M.C- 425 Seminar-II	4 Credits
Total 20 Credits	

**2nd Semester Non- Credit Course - Judicial Process -II(Decision making process of judiciary)**

### **THIRD SEMESTER (June to November)**

**A candidate has to opt for two groups of specializations from out of the five groups mentioned in Group A to E consisting of course Numbers from LL.M.E- 511 to LL.M.E- 520**

#### **Group – A (Criminal Law)**

LL.M.E- 511 Paper-I General Principles of Criminal Law	4	Credits
LL.M.E- 512 Paper-II General Principles Criminal Administration	4	Credits

#### **Group – B (Business Law)**

LL.M.E- 513 Paper-I Business Law -I (General Principles of Law of Contract)	4 Credits
LL.M.E- 514 Paper-II Business Law - II (General Principles of Business law)	4 Credits

#### **Group – C (Family Law)**

LL.M.E- 515 Paper-I Principles of Family Law-I	4Credits
LL.M.E- 516 Paper-II Principles of Family Law-II	4 Credits



**Group – D (Environmental Law)**

LL.M.E- 517 Paper-I Principles of Environmental Law-I	4 Credits
LL.M.E- 518 Paper-II Principles of Environmental Law-II	4 Credits

**Group – E (Intellectual Property Rights Law)**

LL.M.E- 519 Paper-I Intellectual Property Rights Law and International Regime	4 Credits
LL.M.E- 520 Paper-II Copyrights	4 Credits

LL.M.C- 521 Dissertation and Viva-Voce	4 Credits
--	-----------

Total 20 Credits

**3rd semester Non-credit course - Judicial Process Paper-III (Civil Procedure)**

**FOURTH SEMESTER (December to May)**

**A candidate has to opt for two groups of specializations from out of the five groups mentioned in Group A to E consisting of course Number from LL.M.E-522 to LL.M.E-531**

**Group – A (Criminal Law)**

LL.M.E- 522 Paper-I Criminology	4 Credits
LL.M.E- 523 Paper-II Penology	4 Credits

**Group – B (Business Law)**

LL.M.E- 524 Paper-I Business Law -III (Company Law)	4 Credits
LL.M.E- 525 Paper-II Business Law –IV (Banking & Insurance Law)	4 Credits

**Group – C (Family Law)**

LL.M.E- 526 Paper-I Family Law-III (Hindu Law Concepts)	4 Credits
LL.M.E- 527 Paper-II Family Law –IV (Hindu Statute Law)	4 Credits

**Group – D (Environmental Law)**

LL.M.E- 528 Paper-I Environmental Statute Law-I	4 Credits
LL.M.E- 529 Paper-II Environmental Statute Law-II	4 Credits

**Group – E (Intellectual Property Rights Law)**

LL.M.E- 530 Paper-I Patent	4 Credits
LL.M.E- 531 Paper-II Trade Marks Designs, Protection of Geographical Indication & New varieties of Plant	4Credits
LL.M.C-532 Law Teaching	4 Credits

Total 20 Credits

GRAND TOTAL 80 Credits

**LL.M.E-532 4th semester Non-credit course - Judicial Process-IV (Evidence)**

N.B.: A student has to opt. for the same corresponding group in the 3rd and 4th semester. Course No. LL.M.C-415 (Seminar-I of 1st Semester), Course No. LL.M.C-425 (Seminar-II of 2nd semester) and Course No. LL.M.C-532 (Law Teaching of 4th semester) is practical papers which shall be valued by internal Examiners. Course No. LL.M.C-521 (Dissertation and Viva-Voce of 3rd Semester) shall be assessed in a Viva-Voce examination jointly by one internal and one external examiner. Each dissertation shall consist of minimum fifty pages from content to Bibliography. Topic of dissertation shall be fixed by the supervisor judging the aptitude of the candidate at the first phase of the 3rd Semester.

Over and above the course and the credit hours, there shall be following add on courses in the 1<sup>st</sup> and 3<sup>rd</sup> Semester for skill development. These courses shall be purely optional and non-credit courses, out of which two courses to be offered in the 1<sup>st</sup> Semester and 3<sup>rd</sup> Semester and the same will be reflected in their Degree certificate.

- i. Soft and IT Skill
- ii. Leadership /Personality Development
- iii. Communicative English
- iv. Entrepreneurship and Development

**EVALUATION PATTERN FOR SEMESTER EXAMINATIONS FOR THEORY PAPERS, SEMINAR AND DISSARTATION EXAMINATION:**

**For theory Papers:**

MID TERM TEST - I	MID TERM TEST - II	END TERM SEMESTER TEST	TOTAL
10 Marks	10 Marks	80 Marks  Examination duration shall be three hours.  The question papers shall be divided into two parts – namely Group – A and Group – B. Group-A will carry 10 short questions ( two short questions from each units) of two marks each. Group-B shall have 4 long type questions of fifteen marks each and there shall be one question from each unit with one alternative.	100 marks

**For seminar Examination and Dissertation:**

Identificati on of problem	Literatu re review	Methodolo gy	Finding and analysis	Project report or Thesis	Viva Voce	tota l
10	10	10	40	10	20	100

**PROCEEDINGS OF ACADEMIC COMMITTEE MEETING HELD ON DT 07.04.2018 AT 10.00 AM**

**Members Present**

1. Dr.Mrs. Sabita Sahoo
2. Dr.Nihar Ranjan Satapathy
3. Prof.J.Patel , Utkal University.
4. Dr.Arun Kumar Tripathy
5. Dr.Priyabrat Gochhayat
6. Dr.Mrs.Bijaya Laxmi Panigrahi.
7. Prof.A.K.Mishra, Director, IMA, Bhubaneswar Invited Member.

At the outset the Head welcomed the members of the Committee.

Agenda-1 xxxxxxxxxxxx

Agenda-2 xxxxxxxxxxxx

Agenda-3 The Head apprised the recent deliberations on CBCS system at undergraduate level and the details on non credit add on courses and changes in PG syllabus, specially the syllabus on Advanced Complex Analysis(Elective).

The Agenda-4 xxxxxxxxxxxx

At the end, the Head thanked the members for their valuable advices.

-sd/-

Prof.J.Patel

-sd/-

Dr.Mrs.S.Sahoo

-sd/-

Dr.N.R.Satapathy

-sd/-

Dr.A.K.Tripathy

-sd/-

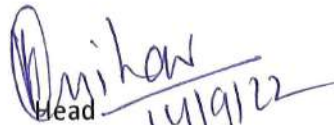
Dr.P.Gochhayat

-sd/-

Dr.Mrs.B.L.Panigrahi

-sd/-

Prof.A.K.Mishra

  
 Head  
 14/9/22  
 Dept of Mathematics  
**Head**  
**Dept. of Mathematics**  
**Sambalpur University**  
**Jyoti Vihar-768019**

# ADVANCED COMPLEX ANALYSIS

**Objectives:** The course is aim to provide some exploration of Complex Analysis in different dimension. It is designed for the students who have completed a basic course in complex analysis in under graduate or post-graduate level. To register in the course the student must have reasonable mastery of analytic properties of functions.

**Expected Outcomes:** After completing this course, the students are expected to be able to

- Know the harmonic analogue of analytic functions, concept of sequence of analytic functions, normal families and idea of analytic continuation. This may help them to continue higher study in potential theory.
- Construct the entire as well as meromorphic functions and its properties. This will help to achieve a platform for deep research on growth of analytic functions and Nevanlinna theory.
- Know the basic properties of elliptic functions due to Weierstrass. This will motivate to study analytic number theory and modular functions.

## Unit-I

Analytic continuation: direct analytic continuation, Natural boundary, function elements, complete analytic function, Harmonic functions in the disk, mean value theorem, Poisson integral, maximum/minimum principle for harmonic functions, Harnack's inequalities, reflection principle for harmonic functions, Dirichlet problems for upper half plane, Sub-harmonic functions and their properties, Normal family.

## Unit-II

Entire function: Product development, Zeros of entire functions, Weierstrass factorization theorem, exponent of convergence of zero of entire function, Genus, order and type of entire functions, Poincare theorem, Borel theorem, Hadamard theorem, entire functions with finitely many zeros.

## Unit-III

Meromorphic functions: Mittag-Leffler representation of a meromorphic function, Gamma function, Digamma functions and their properties, Riemann zeta functions, Analytic continuation of zeta function, Poisson- Jensen's formula, Nevanlinna first fundamental theorem, order and type of meromorphic functions.

## Unit-IV

Elliptic functions: doubly periodic functions, General properties of elliptic functions, Weierstrass  $P$ -function,  $\sigma$ -function and  $\zeta$ -function, addition theorem for  $P$  and  $\zeta$ -function, Elliptic Modular functions.

P.T.O.

*Goyal*  
17/4/18

*AK*  
17/04/2018

*Pray*  
17/4/18

*Pranigrahi*  
17/4/2018

*Anil*  
17/4/18

Reference books:

1. Complex Analysis Selected Topics: Pure and applied mathematics. A series of Monographs and Textbooks, Dekker Publication. Mario O. Gonzalez.
2. Functions of one complex variable, J.B.Conway, Springer International Student Edition.
3. Complex Analysis, Lars V. Ahlfors, McGraw-Hill Int. Edition.
4. Lectures on theory of functions of complex variables, Vol. I, II, G. Sansone and J. Gerretsen, Noordhoff, Groningen, 1960
5. Function theory of one complex variables, Robert E. Greene and S.G.Krantz, 3<sup>rd</sup> Edition, AMS.

Prakash  
17/4/2018

AMZ  
17/04/2018

Pray  
17/4/18

Ambar  
17/4/18

Papnigrahi  
17/4/2018

## C-PROGRAMMING AND DATA STRUCTURE

### UNIT - I

FUNDAMENTAL OF C: Introduction - History, Generations, Classification of Computers, Concept of Programming and programming Language, What is C. The C Elements - Character Set, Constants, Variables, Keywords, Data Types C instruction - Type Declaration Instruction, Arithmetic Instruction (Hierarchy of Operators, Associativity of Operators), Control instruction The Decision Control Structure - if, if-else, else-if ladder, Logical Operators, Ternary Operator The Loop Control Structure - while, for, Nesting of loops, break, continue, do-while, odd loops The Case Control structure - switch, goto

### UNIT - II

ADVANCED TECHNIQUE IN C: Function and Pointers- What is Function? Why Function? Passing values between Functions, Scope Rules of functions, Calling Convention, Introduction to Pointers, Pointer Notation , Advance features of functions (Return Type of function, Call by Value and Call By Reference, Recursion), Adding function to the Library The C Preprocessor - Features, Macro Expansion, Macro vs. Arguments, Macro vs Function Arrays- What is Arrays, Array Initialization, Bounds Checking, Passing Array Elements to Function, Passing Entire Array Elements to Function, Array of Pointers Strings- What are Strings, Pointers and Strings, Standard Library String Functions Structures- Why Use Structures, Declaring a Structure, Accessing Structure Elements, How Structure Elements are stored, Array of Structure. File Input / Output - Data Organization, File Operation (Opening, Reading, Trouble in Opening, Closing)

### UNIT - III

INTRODUCTION TO DATA STRUCTURE: Introductions - Data Representation, Data Types, Abstract Data Types (ADT), Classification of data Structure - (Arrays, Lists, Stacks, Queues, Trees, Graphs) Data Structure Operations Stack - Operation, Representation of Stack (Array and Linked List), Application of Stack Queue - Operation, Representation of Stack, Deque, Priority Queues, Application of queue Searching - Sequential Search, Binary Search Sorting - Bubble Sort, Insertion Sort, Shell Sort, Selection Sort, Merge Sort, Quick Sort, Radix Sort, Address Calculation Sort, Heap Sort Hashing - Hash Function, Collision Resolution Techniques Trees - Terminology, Binary Tree, Traversing Binary Tree, Binary Search Tree, Graphs - Representation of Graphs, Shortest Path Algorithm (Warshall's Algorithms, Modified Warshall's Algorithms, Single-Source Shortest Path: Dijkstra's Algorithms), Minimum Spanning Tree (Kruskal's Algorithms, Prim's Algorithms)

### UNIT - IV

ALGORITHM and ANALYSIS: Introduction to Algorithm: Pseudocode, Algorithm Design and Data Structure, Analyzing an Algorithm, Time and Space Complexity - Asymptotic Notation, O (Big-Oh),  $\Omega$  (Omega),  $\Theta$  (Theta). Algorithm Analysis - Best Case, Worst Case, Average Case

~~Ray~~  
13/4/17

~~Miller~~  
13/4/17

~~Shr~~  
13/4/17

~~Shr~~  
13/4/17

~~Preparagahi~~  
13/4/17

**BOOKS:**

1. Let Us C : Y. Karnetkar : BPB Publication
2. Programming in C : E. Balagurusami, Tata McGrawHill
3. The C Programming Language : Kerningham and Ritchie, PHI
4. Programming in C : Gotfried : Tata McGraw Hill
5. Fundamentals of Data Structures : E. Horowitz, S. Sahani : Galgotia Publication
6. Data Structures and Algorithms : A.V.Aho, J.E.Hoppersoft, J.E.Ullman : Addison Wesley
7. Data Structures Using C : A.S.Tanenbaum : PHI
8. The Elements of Programming Style : Kerningham B W,
9. Technique of Program Structures and Design : Yourdon E
10. Theory and Problems of Computers and Programming : Schied F S

~~Ray~~  
13/4/17

~~Mishra~~  
13/4/17

~~Sh~~  
13/4/17

~~Senal~~  
13/4/17

~~Prapanigrahi~~  
13/4/17

**PROCEEDINGS OF ACADEMIC COMMITTEE MEETING HELD ON DT 13.07.2018 AT 11.30 AM**

**Members Present**

1. Prof.J.Patel , Utkal University.
2. Prof.P.K.Ray
3. Dr.Mrs. Sabita Sahoo
4. Dr.Arun Kumar Tripathy
5. Dr.Priyabrat Gochhayat
6. Dr.Mrs.Bijaya Laxmi Panigrahi.

At the outset the Head welcomed the members of the Committee .

Agenda:1 xxxxxxxxxxxxxxxxx

Agenda :02 xxxxxxxxxxxxxxxxx

Agenda :03 Syllabus of MA/M.Sc. and M.Phil.

It is resolved that the subject " Topology" in MA/M.Sc. Semester-II be changed to Semester-I and the subject ' C and Data structure' in MA/Msc semester-I be changed to Semester-II replacing the name to " Data Structure using C++" . The syllabus of the new course is passed.All other course be remain as it is .

The MA/M.Sc. syllabus was discussed in view of the introduction of +3 CBCS syllabus. The Committee is of opinion to prepare courses by keeping a unit as the review of the +3 courses and giving more emphasis on problems on the subjects which are in PG syllabus and now in +3 syllabus .

The M.Phil syllabus for 2018-19 be same as that of M.Phil 2018.

Agenda :04 xxxxxxxxxxxxx

At the end the Head thanked the members for their valuable suggestions.

-sd/-

Prof.J.Patel

-sd/-

Prof.P.K.Ray

-sd/-

Dr.Mrs.S.Sahoo

-sd/-

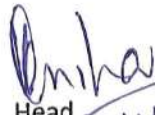
Dr.A.K.Tripathy

-sd/-

Dr.P.Gochhayat

-sd/-

Dr.Mrs.B.L.Panigrahi

  
Head 14/9/22  
Dept of Mathematics  
**Head**  
**Dept. of Mathematics**  
**Sambalpur University**  
**Jyoti Vihar-768019**



**Course Name:** Data Structure using C++  
**Course Code:** L-P-T-Cr.: 3 0 0 3 Semester:

**Prerequisite:** Basics of Computer

**Learning Objective:**

1. To understand the basics of Object Oriented Programming.
2. To understand and analyze various Searching and Sorting Techniques.
3. To understand the basic concepts such as Abstract Data Types, Linear and Non Linear Data structures.
4. To understand the behavior of data structures such as stacks, queues, trees, Graphs and their representations.
5. To choose an appropriate data structure for a specified application

**Learning Outcome:**

1. Applying object oriented concepts to solve real life problems by choosing appropriate data structure.

**UNIT –I:INTRODUCTION TO Programming Fundamentals (12 Hours)**

**Basic Programming Elements:** C++-Character set, Tokens (Keywords, Comments, Separators, Identifiers, Literals, Operators), Input/Output, Rules for Identifier name, Data type, Variable (Declaration, Definition and Initialization). Decision making with IF statements, SWITCH statements, Break statements. Entry Controlled loops (WHILE and FOR), Exit-Controlled Loops (DO WHILE), jumps in loops.

**Pointer:** Introduction, Pointer variable definition and initialization, pointer operators, pointer arithmetic.

**Function:** Designing structured programs, Functions, basics, parameter passing, recursive functions, Function overloading.

**UNIT –II: Array and Object Oriented Concepts (12 Hours)**

**Array:** Definition, Declaration, Initialization, Searching(Linear Search, Binary Search), Sorting(Bubble sort, Selection sort, Insertion sort, merge sort, radix sort)

**Classes and Objects:** Specifying a class, access specifier, defining data members and member functions, Constructor(default, parameterized, copy)

**UNIT –III: Linear Data Structure (08 Hours)**

**Stack:** Stack ADT, Definition, array implementations, applications-infix to postfix conversion, Postfix expression evaluation.

**Queue:** Queue ADT, definition, array, Linear queue, Circular queues, double ended queue.

**Linked List:** Definition, Single-linked list, Stack and Queue implementation using linked list.

**UNIT –IV: Nonlinear Data structure (08 Hours)**

**Tree:** Definition, Terminology, Binary Tree and variants, Binary Search Tree(BST), Balanced search trees-AVL Trees.

**Graph:** Graphs–Definitions, Terminology, Applications and more definitions, Properties, Graph ADT, Graph Representations- Adjacency matrix, Adjacency lists, Graph Search methods - DFS and BFS

**TEXT BOOKS:**

1. Ashok N. Kamthane, Object Oriented Programming with ANSI and Turbo C++, 1/e, Pearson Education, 2006.
2. E.Balaguruswamy, Object Oriented Programming with C++, 6/e, McGraw Hill, 2013.
3. Data structures, Algorithms and Applications in C++, 2nd Edition, Sartaj Sahni, Universities Press.
4. Data structures and Algorithm Analysis in C++, 3rd edition, M. A. Weiss, Pearson.

**REFERENCE BOOKS:**

1. Data structures with C++, J. Hubbard, Schaum's outlines, TMH.
2. Data structures and Algorithms in C++, M.T. Goodrich, R. Tamassia and D. Mount, Wiley India.

*Handwritten signatures and dates:*  
Gaural - 13/7/2018  
Kray 13/7/2018  
Anand 13/07/2018  
Rajanigrahi 13/7/2018  
Sh 13/7/18  
Dhiva 13/7/18

**PROCEEDINGS OF ACADEMIC COMMITTEE MEETING HELD ON DT 20.01.2018 AT 10.00 AM**

**Members Present**

1. Prof.G.K.Panda, NIT Rourkela, External Member.
2. Dr.Mrs. Sabita Sahoo
3. Dr.Nihar Ranjan Satapathy
4. Dr.Arun Kumar Tripathy
5. Dr.Priyabrat Gochhayat
6. Dr.Mrs.Bijaya Laxmi Panigrahi.

1. xxxxxxxxxxxxxxxxxxxxxxxxxxx

2. xxxxxxxxxxxxxxxxxxxxxxxxxxx

3. The Research Methodology syllabus for Semester I Mphil was discussed and approved

4. xxxxxxxxxxxxxxxxxxxxxxxxxxx

5. xxxxxxxxxxxxxxxxxxx

-sd/-

Prof.G.K.Panda

-sd/-

Dr.Mrs.S.Sahoo

-sd/-

Dr.N.R.Satapathy

-sd/-

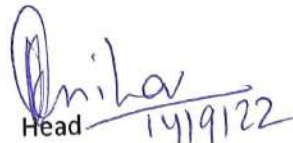
Dr.A.K.Tripathy

-sd/-

Dr.P.Gochhayat

-sd/-

Dr.Mrs.B.L.Panigrahi

  
Head 14/1/22

Dept of Mathematics

**Head**  
**Dept. of Mathematics**  
**Sambalpur University**  
**Jyoti Vihar-768019**

# RESEARCH METHEDODOLOGY

## Unit I

Meaning and importance of Research, Different types and styles of research, Critical thinking, Creativity and innovations, Hypothesis formulation of research plan, Art of reading, understanding and writing scientific papers, , Litearture survey, Formulating the Research Problem, Topics specific to the writing of Mathematics, Exposition, Other types of writing, Modern writing environment, Poster preparation and presentation, Research and Academic integrity: Plagiarism, Copyright issues, Ethics in research.

## Unit- II

Application of Statistical Concepts/ Procedures, Data, Diagramatic representation of data, Probability, Measure of Central tendency , Measure of dispersion, Skewness and Kurtosis, Normal distribution, Simple Correlation, Regression Analysis.

## Unit III

Test of single mean, Test of equality of two means, Paired-t test, Test for equality of variances, Test for goodness of fit, Non-parametric tests

## Unit IV

Learning Open source software packages specific to the subject.

### References:

1. S.G. Krantz, A primer mathematical writing, AMS.
2. C.R. Kothari, Research Methodology, New age international, New Delhi, Indian, 2008.
3. S.C. Gupta and V.K. Kapoor. Fundamentals of Mathematical Statistics, Sultan Chand & Sons, 2014.
4. Rudra Pratap, Getting started with MATLAB: A quick introduction for Scientists and Engineers, Oxford University Press, 2002.
5. A. Gilat, MATLAB-An introduction with Applications, Wiley, 2004

Atch  
20/01/2018

P22P  
20/1/18

Sh  
20/1/18

h  
20/01/2018



**Compiled AGENDA FOR THE MEETING OF THE ACADEMIC COUNCIL**

**DATED 24.04.2018**

**Date: 24.04.2018**

**Time: 09.00 AM**

**Venue: Seminar Hall, P.G. Department of Physics, Sambalpur University**

**(A) Ratification of the action of the Vice Chancellor taken in exercise of his powers under Sub- Section 15 of Section 6 of the Act.**

1. **Prof. B. Satapathy** (Chairman, PG Council) to move on behalf of the Vice Chancellor:

That the Academic Council do consider and ratify the action taken by the Vice Chancellor in exercise of his powers vested under sub section (15) of section 6 of the Odisha Universities Act-,1989 in approving the amendment of the regulations for BHMS course to be effective from 2015-2016 from the date of which the regulation was implemented.

(Communicated to all concerned vide letter No.4626/Acd-I Dated 30.06.20170)

2. **Prof. A.K.Das** (H.O.D., P.G. Dept. of Odia) to move on behalf of the Vice Chancellor:

That the Academic Council do consider and ratify the action taken by the Vice Chancellor in exercise of his powers vested under sub section (15) of section 6 of the Odisha Universities Act, 1989 in approving the regulation for Post Doctoral Degree in Humanities, Management and Social Science (D.Litt), Science and Engineering (D.Sc.) and Law (LLD), on the recommendation of the Regulation Amendment Committee held on 06.11.2017 to be effective from 06.11.2017.

(Communicated to all concerned vide Notification No.8448/Acd-I Dated 10.11.A2017)

3. **Prof. P.K.Behera**, (H.O.D., P.G. Dept. of Chemistry) to move on behalf of the Vice Chancellor:

That the Academic Council do consider and ratify the action taken by the Vice Chancellor in exercise of his powers vested under sub section (15) of section 6 of the Odisha Universities Act, 1989 in approving the amendment of Provision 1: 4 regarding Generic Elective Course of the Regulation for the Bachelor of Arts, Science and Commerce examinations (3 year degree course) under Choice

**18. Library & Information Science –**

Recommended Syllabus and Regulation for **One Year P.G. Diploma Course in Library Automation & Digitization (Appendix-Eix).**

**19. Mathematics :-**

- a. Recommended revised Syllabus for M.A/ M.Sc in Mathematics ( **Appendix-E(x)-B**
- b. **Recommended UG syllabus in Mathematics as in Appendix-E(x)-A1 & A2**

**20. Nursing :-**

The Board suggested continuation of the prevailing of the syllabuses.

**21. Odia :-**

The Board recommended for the course “**SambadPrastuti O Sampadana Kala**” be offered as SEC-C to UG pass students in Odia.

**22. Political Science :-**

- a. BOS Recommended continuance of UG & M.Phil. Syllabuses
- b. Recommended Revised Syllabus for M.A. in Political Science. Recommended Revised Syllabus in **-Appendix-Exi (A)**
- c. Recommended deletion of Paper No. – 105 – Seminar from PGDHRE / CCHRE syllabus .
- d. Recommended Revised Syllabus for PGDHRE / CCHRE course to be given retrospective effective from the academic session 2017-18. **(Appendix-Exi) Not Received**

**23. Physical Education:-** The Board suggested continuation of B.P.Ed. syllabus.

**24. Performing Arts :-**

- a. Recommended revised syllabus for **MPA** . Recommended revised Syllabus in **Appendix-Exii (A )**
- b. Recommended revised Syllabus in Recommended syllabus for **M.Phil. Courses in Performing Arts**. Recommended revised Syllabus in **Appendix-Exii(B )**

**25. Philosophy :-**

- a. Recommended Syllabus for Ph.D. Course Work in Philosophy . Recommended Syllabus in **(Appendix-Exiii (A)**



**SCHOOL OF PERFORMING ARTS**

**SAMBALPUR UNIVERSITY**

**THE COURSE – CURRICULUM**

**FOR**

**MASTER OF PERFORMING ARTS (MPA)**

**DANCE & DRAMA**

**2018 – 2020**

*Mamata Sahu .*

**Courses Offered** : (1) Master of Performing Arts,  
(Dance &, Drama)

**Aim and Objective** : The above courses aim at providing both theoretical and Practical aspects of dance/drama to students and facilitating them to take up career in performing art.

**Duration** : Two years

**Pattern** : Semester-cum-Course Credit System

**Total Mark** : 2000

**Credit Hours** : 80 CH

**Seat** : 16 + 16

#### **Outline of the Course Curriculum for MPA**

**Specializations** : 1) **Dance:** (A) ODISSI  
(B) SAMBALPURI  
2) **Drama:** ACTING

*Mamata Sahu .*

# THE COURSE CURRICULUM FOR MASTER OF PERFORMING ARTS (DANCE)

## Outline Course Curriculum

### 1<sup>ST</sup> SEMESTER

- MPA (DNC) – 4.1.1 : History of Indian Dance & Drama (Ancient and Medieval) (4CH)
- MPA (DNC) – 4.1.2 : Natyashastra and Other Texts (4 CH)
- MPA (DNC) – 4.1.3 : Folk Dance and Folk Drama (Major) of Western Odisha (4CH)
- MPA (DNC) – 4.1.4 : Studio Course (Practical) -I (Yoga, Music & Theatre Games) (4 CH)
- MPA (DNC) – 4.1.5 : Studio Course (Practical)-II(Multimedia & Computers)

### 2<sup>ND</sup> SEMESTER

- MPA (DNC) – 4.2.1 : Indian Dance: Pre and Post-Independence Scenario (4CH)
- MPA (DNC) – 4.2.2 : Dance Aesthetics (4 CH)
- MPA (DNC) – 4.2.3 : Popular Dances of the World (4CH)
- MPA (DNC) – 4.2.4 : Studio Course (Practical) -IV (Abhinaya Aspect of Classical) (4 CH)
- MPA (DNC) – 4.2.5 : Studio Course (Practical) - V (Rhythm) (4 CH)

### 3<sup>RD</sup> SEMESTER (Specialization)

#### A) ODISSI DANCE

- MPA (DNC) 5.1.1 : Dance Research-I (4 CH)
- MPA (DNC) 5.1.2 : Theory of Odissi Dance -II (4 CH)
- MPA (DNC) 5.1.3 : Studio Course (Practical)-III (Choreography) (4 CH)
- MPA (DNC) 5.1.4 : Studio Course (Practical) - IV (Techniques of Odissi Dance) (4 CH)
- MPA (DNC) 5.1.5 : Studio Course (Practical) - V (Arts Management) (4 CH)

*Mamata Sahu .*



### **3<sup>RD</sup> SEMESTER (Specialization) FOLK DANCES OF WESTERN ODISHA**

- MPA (DNC) 5.1.1 : Dance Research (4 CH)
- MPA(DNC) 5.1.2 : History & Principles Of Western Odisha Dance (4CH)
- MPA (DNC) 5.1.3 : Studio Course (Practical) (Choreography)(4 CH)
- MPA (DNC) 5.1.4 : Studio Course (Practical) Techniques Of Sambalpuri Dance (4 CH)
- MPA (DNC) 5.1.5 : Studio Course (Practical) Arts Management (4 CH)

### **4<sup>TH</sup> SEMESTER**

#### **Specialization:**

#### **(A) ODISSI DANCE**

- MPA (DNC) 5.2.1 : Musical Instruments of Odissi Dance & Origin History of Tala (Rhythm) (4 CH)
- MPA (DNC) 5.2.2 : Life sketch & contribution of Odissi Nrutyaguru & Dancers (4 CH)
- MPA (DNC) 5.2.3 : Studio Course (Practical): IX (Teaching Process) (4CH)
- MPA (DNC) 5.2.4 : Studio Course (Practical) (Performance) (4CH)
- MPA (DNC) 5.2.5 : Field work, Project Report /Dissertation & Viva Voce (4 CH)

#### **(B)SAMBALPURI DANCE**

- MPA (DNC) 5.2.1. : Musical Instruments of Folk Instruments ( 4 CH)
- MPA (DNC) 5.2.2. : Life Sketch &Contribution of Nrutyaguru in Sambalpuri Dance( 4 CH)
- MPA (DNC) 5.2.3 : Studio Course (Practical): IX (Teaching Process) (4 CH)
- MPA (DNC) 5.2.4 : Studio Course (Practical) (Stage Performance) (4 CH)
- MPA (DNC) 5.2.5 : Field Work, Project Report / Dissertation &Viva Voce .(4 CH)

*Mamata Sahu .*

**SYLLABUS**  
**M.Phil Performing Arts -2018**  
**(January to December)**  
**First Semester**

**Course 6.1.1**

(4 CH)

**Contemporary Indian Dance and Drama**

**Unit-1: AESTHETICS –DANCE & DRAMA (INDIAN and WESTERN)**

Definition in the context of Performing Arts, Value of Aesthetics in Dance & Drama, Aesthetics in Indian context & in Western context. Intuition & logical thoughts, Universality in Performing Arts (Dance & Drama)

**Unit-2: DEVELOPMENT OF DIFFERENT INDIAN DANCE & DRAMA TRADITIONS IN 20<sup>th</sup> CENTURY.**

History , Development & Techniques of Indian Dance & Drama(Ancient times till the modern times), Study of Literature , Epigraphy, Sculpture, Iconography, Paintings etc.

**Unit-3: IMPLICATION OF MODERN DANCE & DRAMA TRENDS TO THE INDIAN SCENE.**

History development of Western ballet & modern Dance in India . Evolution of Contemporary Theatre in the context of development in Indian Theatre. New trends in Contemporary Theatre since independence movement.

**Unit-4: CONTRMPORARY TURNS TO INDIAN CLASSICAL DANCE & DRAMA.**

**Course -6.1.2**

(4 CH)

**DRAMA**

**Unit- 1: NATYA TATWA(PRACHYA & PASCHATYA)**

Natya shastra,Indian Theatre Mancha Abhinaya, Eti bruta, Nayaka-Nayika , Bhaba-Rasa, Sandhi, Abasta Prakruti, Dasa Rupaka. Elements of Drama, Structure of plot, Unity of time action and place, Classification of tragedy & Comedy.

**Unit-2: DIFFERENT ASPECTS OF ACTING / DIRECTION**

Presentational theory and representational, isms in Theatre Direction (Realism & Anti realism)

(4)

**Unit-3: DESIGN OF STAGE CRAFT**

- (i) Aspects of stage design.
- (ii) Style & types of set design.

**Unit-4: DIFFERENT ASPECTS OF LIGHT & SOUND**

Necessary of light and sound, Developing mood and emotions through light and sound.

**OR**

**ODISSI DANCE**

**(4 CH)**

**Unit-1: PHILOSOPHICAL DISCOURSE.**

Indian traditional texts – Mangalacaran, Anubandha Catustaya, Uddesa, Laksana, Parikas.

**Unit-2: DETAIL KNOWLEDGE OF BOOK LIKE DASARUPAKA OR NATYASAstra.**

Natyashastra Sangraha , Chaturbidha Abhinaya,Rasas, Bhavas , Dharmis,Vrittis , Paravrittis, Astabidha Nayaikas, Nayaka Bheda, Abasthas,Sandhis,Siddhis,Dasarupakas.

**Unit-3: STUDY OF RHYTHMIC STRUCTURE AND ITS APPLICATION IN ODISSI DANCE.**

Study of Sapta tala like Dhruva, Matha, Rupaka, Jhampa, Tripata, Atatati, Ekatali.

**Unit-4:STUDY OF TEMPLE ART OF DIFFERENT PARTS OF ODISHA**

**OR**

**FOLK DANCE**

**(4 CH)**

**Unit-1: THEORY OF ARTS**

Origin & Development of Folk Dances of Western Odisha, Detailed study of the Folk dances like DALKHAI &it's sub groups, Shabda Nrutya,Kalangi Naach, Dand Sanchar,Samprada, Ghumura, Dhap, Sarmangla, Sabarlila, Dakaa Naach, Karma, various Stick Dances etc. Relevance of different Child Games on the Folk Dances of Western Odisha.

**Unit-2: DIFFERENT ASPECTS OF FOLK MUSIC & RHYTHM**

- (i) Manufacturing of different Folk Instruments: GANDABAJA,MAET DHOL, GHUMURA, DHAAP, MRIDANGA, MANDAL, DHUNKEL,GHUDKA,etc.
- (ii) Codification of different PAARS(rhythm) of different Folk forms and it's Layakari.
- (iii) Detailed study of the folk music & dance based on Rhythm-"Badya ashrita".
- (iv) Astudy on the form which is not based on Rhythm : Halia, Sajani, Galara, Humo-Bauli, Kandana, Chhua bhurta,etc.
- (v) Relevance of Rasa in Folk Music.

(5)

**Unit-3- OTHER FOLK DANCES**

- (i) LAVNI
- (ii) BIHU
- (iii) DANDA NRUTYA
- (iv) CHHAU,ETC.

**Unit-4: PRESENTATION STYLE OF DIFERENT FOLK DANCES.**

Shabda Nrutya,Parva,Dalkhai,Nachnia,Ghumra,sarmangla,etc.

**Course-6.1.3**

**(4 CH)**

**Research Methodology and Coumputer & Multi Media**

**Unit-1:** Definition, Scope & Different aspects of Research

Characteristics of the researcher

Types of Research

**Unit-2:** Collection & Critical analysis of research materials.

Foot note & bibliography

**Unit-3:** Basic concepts of Ms-Office, Scanning of materials, editing in photoshop & Sound Forge and

Internet

**Unit-4:** Handling, recording, editing & Processing of Video and Multimidea

**Course -6.1.4**

**(4 CH)**

Practical and/ or Field Study and/ or Essay Course (Covering Papers- 611, 612,613)

**Course-6.1.5**

**(4CH)**

- (1) Review of research papers Published in reffered journals
- (2) Review report

(6)

## Second Semester

### Course- 621

Seminar

(2 CH)

### Course -622

Dissertation and Viva

(18 CH)

Controller of Examinations  
SAMBALPUR UNIVERSITY  
JYOTI VIHAR, BURLA,  
Sambalpur, Odisha, India.  
PIN-768 019.



PHONE and Fax: 0663-2430806  
e-mail: [coesuniv@gmail.com](mailto:coesuniv@gmail.com)  
Web-site: [www.suniv.ac.in](http://www.suniv.ac.in)

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( Both by Normal despatch and by e- mail)

No. 4207 / Acd.-I

Dated: 06/07/19

To

The H.O.D.,  
P.G. Department of Sociology,  
Sambalpur University, Jyoti Vihar .

Sub: Approval of revised syllabus M.A. in Sociology.

Sir,

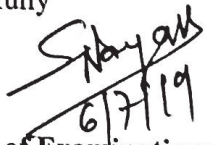
I am directed to intimate you that the Vice- Chancellor has been pleased to approve the revised/ modified syllabus for M.A. in Sociology under 6 (15) of O.U. Act – 1989 giving it effect from the academic session 2018-19 with condition to be placed it before the Board of Studies / Academic Council for ratification. A copy of the said syllabus is enclosed herewith for all concerned.

This may be notified and be made available to the teachers and students concerned of your college/ department/ institution. You are further requested to ensure teaching of the courses accordingly. *Any error and omission etc.* may kindly be intimated to the undersigned.

This is for your information and necessary action.

Encl:- As above.

Yours faithfully

  
6/7/19  
Controller of Examinations

प. ११

**P.G. SOCIOLOGY SYLLABUS UNDER CHOICE BASED CREDIT SYSTEM FOR TEACHING AND EXAMINATION EFFECTIVE FROM 2018-19**

1. M.A. Examination in Sociology shall be conducted in four semesters totaling to 80 credit hours.
2. Two types of paper are offered - one is Core (C), and the second is Elective (E). In the beginning of 2nd Semester, the students shall have to opt one of the Elective papers, out of the Elective papers offered. The selection into the Elective papers shall be on the basis of position in the merit list of Entrance Test and the students shall be allotted equally among the Elective papers. In the 3<sup>rd</sup> and 4<sup>th</sup> semesters, the student shall continue in the same Elective paper.
3. The total marks in each paper shall be 100, out of which 20 percent of the total marks i.e. 20 marks shall be of Internal Assessment (10 marks written periodical test and another 10 marks home assignment) and the rest 80 percent of total marks i.e. 80 marks shall be of Semester Examination.
4. The paper setter shall set the questions of the semester examination of 80 marks. There shall be two questions from each unit with an option to the candidate to answer one question.
5. The paper Nos. Soc. C-513, Soc. E-516, Soc. C- 523 and Soc. E-524 and Soc.E-525 shall have the Internal Evaluation. These papers do not require paper setting by External Paper Setters.
6. For the Paper No. Soc. E- 526 (A, B & C) (Dissertation and Viva) Elective paper based External Examiners be appointed for evaluation. This paper does not require paper setting by External Examiner.

The detailed Course Structure Semester wise w.e.f Academic Session 2018-19 is mentioned below.

Sl. No.	Paper No.	Title	Credit Hours
<b>A. FIRST SEMESTER:</b>			
	SOC.C-411	Sociological Thought-I	4
1.			
2.	SOC.C-412	Corporate Social Responsibility	4
3.	SOC.C-413	Methodology in Social Research	4
4.	SOC.C-414	Sociology of Development	4
5.	SOC.C-415	Gender and Society	4
<b>B. SECOND SEMESTER</b>			
6.	SOC.C-421	Sociological Thought-II	4
7.	SOC.C-422	Sociology of Kinship, Marriage and Family	4
8.	SOC.C-423	Quantitative Research Techniques in Sociology	4
9.	SOC.C-424	Social Change in India	4
10.	SOC.E-425(A)	Rural Sociology-I	4
	SOC.E-425(B)	Sociology of Environment-I	}
	SOC.E-425(C)	Medical Sociology -I	
<b>C. THIRD SEMESTER</b>			
11.	SOC.C-511	Theoretical Perspectives in Sociology	4
12.	SOC.C-512	Sociology of NGOs	4
13.	SOC.C-513	Seminar	2
14.	SOC.C-514	Sociology of Marginalized Communities	4
15.	Soc.E-515(A)	Rural Sociology-II	}
	SOC.E-515 (B)	Sociology of Environment-II	
	SOC.E-515 (C)	Medical Sociology -II	
16.	SOC.E-516(A,B& C)	Project Work	2
<b>D. FOURTH SEMESTER</b>			
17.	SOC.C-521	Advanced Sociological Theory	4
18.	SOC.C-522	Theoretical Perspectives in Indian Sociology	4
19.	SOC.C-523	Seminar	2
20.	SOC.E-524 (A,B &C)	Book Review	2
21.	SOC.E-525 (A,B & C)	Fieldwork	4
22.	SOC.E-526 (A, B & C)	Dissertation and Viva	4

*Nayak*

*T. Prakash*

*[Signature]*

110 Proceeding of the AC meeting held on  
28.6.2018 at 11:30 am in the pg. rept. of statistics  
Utkal University.

### Members present-

1. Dr G. K. Sahu, Reader Statistics, SU
2. Dr M. Pattnaik, Reader and Head Statistics, SU
3. Dr M. Khelan, Asst prof Statistics, SU
4. Prof L. N. Sahoo, Prof, Utkal University

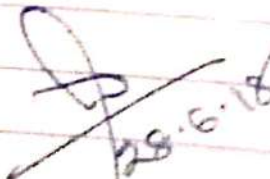
### Business Transacted

1. Confirmed the proceeding of AC meeting held on  
9.4.2018.
2. Consider and passed the result of 3rd sem  
Exams, Dec-2017 and 4th sem Exams, May 2018  
(2016-18 batch) of M.A/M.Sc Statistics and  
Final M.A/M.Sc Statistics Exams-2018 as  
placed by the teacher-in-charge Examinations.
3. Resolved that the courses of study for M.A/M.Sc  
Statistics for the batch 2018-20 as revised in  
Appendix-A is recommended.
4. Resolved that Dr M. Pattnaik be nominated  
as teacher in-charge of Examination of the  
Dept of statistics with effect from 28.6.2018.  
Dr M. Khelan be nominated as Asst teacher-in-charge  
Exams.

Hanshika Pattnaik  
28/6/2018.

Hukh Khatun  
28.6.2018

Ashoo  
28/6/18

  
28.6.18



**COURSES OF STUDY  
MA/M.Sc. STATISTICS  
(2018-2020)**



**POST GRADUATE DEPARTMENT OF STATISTICS (AUTONOMOUS)  
SAMBALPUR UNIVERSITY, JYOTI VIHAR  
BURLA- 768019, ODISHA**

**OUTLINE OF COURSE STRUCTURE**  
**MA/M.Sc. STATISTICS (Session: 2018-20)**

<b>Subject Code</b>	<b>Title of the Course</b>	<b>Credit Hours</b>
<b>I SEMESTER</b>		
MSC 411	Mathematical Analysis	<b>4 CH</b>
MSC 412	Statistical Method-I	<b>4 CH</b>
MSC 413	Probability-1	<b>4 CH</b>
MSC 414	Linear Algebra And Numerical Analysis	<b>4 CH</b>
MSC 415	Data Structure and programming in C	<b>4 CH</b>
MSC 416	Laboratory in Data Structure and Programming in C	<b>2 CH</b>
	Semester Total	<b>22 CH</b>
<b>II SEMESTER</b>		
MSC 421	Statistical Methods-II	<b>4 CH</b>
MSC 422	Statistical Inference-I	<b>4 CH</b>
MSC 423	Sampling Methods	<b>4 CH</b>
MSC 424	Applied Statistics	<b>4 CH</b>
MSC 425	Probability-II	<b>4 CH</b>
MSC 426	Laboratory in Statistical Methods, Sampling and Applied Statistics	<b>2 CH</b>
	Semester Total	<b>22 CH</b>
<b>III SEMESTER</b>		
MSC 511	Optimization Technique-I	<b>4 CH</b>
MSC 51 2	Statistical Inference-II	<b>4 CH</b>
MSC 513	Discrete Mathematical Structure	<b>4 CH</b>
MSC 514	Stochastic Modeling	<b>4 CH</b>
MSC 515	Statistics Laboratory on Computer (SPSS)	<b>2 CH</b>
MSE516( )	Special Paper- (anyone)	<b>4 CH</b>
	Semester Total	<b>22CH</b>
<b>IV SEMESTER</b>		
MSE 521	Time Series & Forecasting	<b>4 CH</b>
MSC 522	Multivariate Analysis	<b>4 CH</b>
MSC 523	Design and Analysis of Experiment	<b>4 CH</b>
MSC 524	Project and Viva Voce	<b>6 CH</b>
MSC 525	Practical and Viva Voce	<b>2 CH</b>
MSE 526( )	Special Paper-II (anyone)	<b>4 CH</b>
	Semester Total	<b>24 CH</b>
<b>GRAND TOTAL</b>		<b>90CH</b>

**POST GRADUATE DEPARTMENT OF STATISTICS (AUTONOMOUS)**  
**SAMBALPUR UNIVERSITY**  
**M.A/M.Sc STATISTICS COURSES OF STUDY FOR 2018-2020**

**SPECIAL PAPERS**

(In each of 3rd & 4th Semester one Special paper has to be chosen from the following list)

<b>Subject code</b>	<b>Title of the course</b>	<b>Credit Hours</b>
A	Advanced Stochastic Process	4CH
B	Computer Graphics	4CH
C	Statistical Quality Control and Reliability	4CH
D	Population Studies	4CH
E	Queuing Theory	4CH
F	Statistical Ecology	4CH
G	Stochastic Inference	4CH
H	Statistical Genetics	4CH
I	Data Ware Housing and Data Mining	4CH
J	Optimization-II	4CH
K	Pattern Recognition	4CH
L	Cryptography	4CH

Academic Programme

First Semester Examination      December 2019

Second Semester Examination      June 2020

Third Semester Examination      December 2020

Fourth Semester Examination      June 2021