ODIA UNIVERSIY ,SATYABADI

M. A IN ODIA,

SYLLABUS FOR THE DEPARTMENT

OF

LINGUISTICS AND NATURAL LANGUAGE PROCESSING

ODIA UNIVERSITY • SATYABADI

YEAR : 2023-24

Satyabadi,Puri,Odisha,Pin-752001

NAME OF THE PROGRAMME : M.A IN ODIA

DEPT OF LINGUISTICS & NATURAL LANGUAGE PROCESSING

DURATION – 2 years

SEMESTERS-04 Semesters

TOTAL MARKS-2000

Each paper carries 100 (80 theory + 20 Internal Assessment) marks

SEMESTER	PAPER CODE	NAME OF THE PAPERS	CREDITS
Semester-I	1.1.1	Odia Language & Linguistics -I	6
	1.1.2	Natural Language processing(NLP)-I	6
	1.1.3	Ancient Odia Literature	6
	1.1.4	Tradition of Odia Kavya in Medival period	6
	1.1.5	Evaluation and structure of Odia Language	6
Semester-II	1.2.1	Odia Language and Linguistics -II (Phonetics and phonology)	6
	1.2.2	Natural Language processing(NLP)-II	6
	1.2.3	Old and Medival Litrature-Critical Survey	6
	1.2.4	Editing & Textual Criticism	6
	1.2.5	Research Methodology	6
Semester-III	2.3.1	Odia Language & Linguistics –III (Morphology & Syntax)	6
	2.3.2	Natural Language processing(NLP)-III	6
	2.3.3	Odia Poetries : A Critical Studies	6
	2.3.4	Modern Odia Texts : Poetry and General Prose	6
	2.3.5	Writing of a Research Paper and presentation through PPT mode	6
Semester-IV	2.4.1	Odia Language & Linguistics –III (Basic concept of Linguistic Semantics) (Basic Concept of Linguistic Semantics)	6
	2.4.2	Natural Language processing(NLP)-IV	6
	2.4.3	Communication and Computer	6
	2.4.4	Culture of Lord Shree Jagannat	6
	2.4.5	DISSERTAION	6

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FIRST SEMESTER

Paper Code -1.1.1

Paper Name –Odia Language & Linguistics-I

. Marks -80+20(Internal Assessment)=100 , 6 Cr

UNITS	SUBJECTS/TOPICS	MARKS	
Unit –I	1.Introduction to Linguistics/a Scientific Study of Language 3.Definition of Language & Linguistics **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –II	1.Impact of other languages on Odia Language. Like – a)Sanskrit Language b) Dravidian Language c)Partugize Language d)Yabanika Language e)Enlish Language **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –III	1. Language family of the world **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –IV	1. Theory and Practice of Translation **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	

Reference Books:

1. Odia Bhasara Unmesa O Bikasha- by Dr. Basudev Sahoo.
2. Prithivira Bhasa Pariibara- by Dr. Basudev Sahoo.
3. Bhasa O Bhasa Bigyana- by Prof. Premananda Mohapatra.
4. The Oriya Script: Origin Development and Sources. (E- Content, academia, edu)

5. Oriya Language- Structure, Writing & Alphabet- Mustgo//www. Mustgo.com/worldlanguages/oriya.
6. Swadhinata parabarti Odia Sahityara Bhumi O Bhumika- by Ed Dr. Baishnaba Charana Samal.
7. Bhasa-sastra Parichaya- Goloka Bihari Dhala.

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FIRST SEMESTER

Paper Code -1.1.2

Paper Name – Natural Language Processing(NLP)-I

. **Marks -**80+20(Internal Assessment)=100 , 6 Credits

UNITS	SUBJECTS/TOPICS	MARKS	
Unit –I	1.Meaning and application of Natural Language Processing **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –II	1.Translation and Natural Language Processing Using Google Cloud 2.Difference between **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –III	1. The Future of Language Processing : Trends & Innovation **Question Pattern -**	20	

	(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)		
Unit –IV	1.Steps of Natural Language Processing a) Sentence Segmentation,b) Word tokenization c) Stemming d) Lemmatization e) Stop word Analysis e) Dependency Parsing f) Part of Speech (POS)tagging **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	

Reference Books:

1. Daniel Jurafsky and James H Martin.
   "Speech and Language Processing", 2e, Pearson Education, 2009.
2. Allen, James "Natural Language Understanding", 2nd Edition, Benjamin/ Cumming, 1995.
3. Charniack, Engene, "statical Language Learning", MIT Press 1993.
4. Jurafsky, Dan & Martin, James, "Speechand Language Processing", 2nd Edition, Prentice Hall, 2008.
5. Manning, Christopher and Heinrich, Schutze, "Foundations of Statistical Natural Language Processing", MIT press, 1999.
6. Bernadette Sharp, Florence Sedes, Wieslaw Lubaszewski, Christopher D. Manning, Hinrich Schutze, "Foundations of Statistical Natural Language Processing", Second Edition, 2000.

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Paper Code -1.1.3

Paper Name – Ancient Odia Literature

. **Marks** -80+20(Internal Assessment)=100 , 6 Credits

UNITS	SUBJECTS/TOPICS	MARKS	
Unit –I	1.Loka Sahitya :Loka-gita,loka-galpa & Loka-nataka **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –II	1. Sarala Das –Svargahorana-parva **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –III	1. Balarama Das :Bhava-samudra **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –IV	1.Chautisa : (Kesvakoili,Baramasi Koili,Artha koili Kanta koili) **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	

Reference Books:

1. Odia Sahityara Itihasa, by Dr. SUrendra Ku Maharana.

2. History of Ancient Odia Literature (in English)- by Rammesh Prasad Panigrahi.
3. Odia Sahityara Itihasa- by Bansidhara Mohanty. Vol- 1, 2 & 3.
4. Odia Sahityara Adiparva- by Surendra Mohanty.
5. Odia Lokasahhitya O Loka Sanskruti- by Krusna Ch. Pradhan, Vidyapuri.
6. Odia Chautisa Samagra- by Dr. Surendra Nath Panigrahi, Satyanarayan Book Store.
7. Chautisa Madhu Chakra- by Dinakrusna Das, Ed- Bichhanda Charana Pattnaik.

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FIRST SEMESTER

Paper Code -1.1.4

Paper Name – Tradition of Odia Kavya in Mediaval Period

. **Marks -**80+20(Internal Assessment)=100 , 6 Credits

UNITS	SUBJECTS/TOPICS	MARKS	
Unit –I	1.Cultural & social images in Odia literature of 18th Century. **Question Pattern –** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 Marks)**	20	
Unit –II	1.Premasudhanidhi of Upendra Bhanja (1st & 14th Chhandas) **Question Pattern –** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 Marks)**	20	

Unit –III	1.Bidagdha-chintamani of Abhimanyu Samantasinghara(1st & 41st Chhandas) **Question Pattern –** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 Marks)**	20	
Unit –IV	1.Rasa-kallola of Dinakrushna Das (1st ,16th & 34th Chhandas) **Question Pattern –** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 Marks)**	20	

Reference Books:

1. Odia Upanyasara Samaja-tattvika-ruprekha- by Bibhuti Pattanaik.
2. Pandita Godabarisha Mishranka Gadya Sahitya: Eka Adhyana- by Dr. Pramod Kumar Behera.
3. Discovering Odia Culture- by Bhagyalipi Malla.
4. Odia-Sahityara Samajika O Samskritika Vikashadhara- by Krishna Chandra Pradhan.
5. Premasudhanidhi of Kavisamrat Upendra Bhanja- Edited by Dr. Surendranath Panigrahi.
6. Bidagdha Chintamani of AbhimanyuSamanta Singhara- Edited by Dinabandhu Biswal/ Debendra Mohanty.
7. Rasa-kallola of Dinakrushna Das- Edited by Artha Ballava Mahanty/ Dr. Surendranath Panigrahi/ Bishnupriya Jena. available- dharmagranthe store.

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FIRST SEMESTER

Paper Code -1.1.5

Paper Name – Evaluation and Structure of Odia Language

. Marks -80+20(Internal Assessment)=100 , 6 Credits

UNITS	**SUBJECTS/TOPICS**	**MARKS**	
Unit –I	1.Evaluation of Odia Language: The language of Inscriptions Charya,Mahabharata,Bhagavata **Question Pattern –** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 Marks)**	20	
Unit –II	1.Reasons of changes of Odia Language **Question Pattern –** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 Marks)**	20	
Unit –III	1.Grammatical structure of Odia Language (Nominal system,,Verbal system,and Syntax) **Question Pattern -**	20	

	(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)		
Unit –IV	1.Language and Dialect,Dialects of Odia, Baleswari,Berhmapuri and Sambalpuri Dialects & Semantics. **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	

Reference Books:

1. Kramabikasita Odia Bhasa- by Alekha Chandra Padiary.
2. Bhasa O Bhasa Vijnana- by Prof. (Dr.) Premananda Mohapatra/ Debi Prasanna Pattanayak.
3. Prayogika Bhasa O Srujan Kriya- Dr. Benudhara Padhi.
4. Adhunika Odia Vyakarana Ebam Bakyadi Rachana- by Dr. Kishore Ch Das & Jayakrusna Mishra.
5. Bhasabigyanara Ruparekha- by Dr. Basudev Sahoo.

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SECOND SEMESTER

Paper Code -1.2.1

Paper Name – Odia Language and Linguistic –II

(Phonetics & Phonology)

. Marks -80+20(Internal Assessment)=100 , 6 Credits

UNITS	**SUBJECTS/TOPICS**	**MARKS**	
Unit –I	1.Phonology & Phnetics : Setting the Stages- a) Role of sound in communication b) Domain of Phonetics	20	

	c) Major branches of Phonetics: Articulatory,Acoustic & Auditory Phonetics **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**		
Unit –II	1. Phygiology And Anatomy of Speech production a) Phrases of Speech b) Speech organs and their functions **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –III	1. Basic Components of Speech Production : a) Initiation or Air stream mechanism b)Types of Air stream mechanism :ingressive &egressibe air-stream,Pulmonic air-stream mechanism,Velaric air-stream mechanism,Glottalic air –stream mechanism b) Phonetion (State of the Glottis),Phonation types c) Articulation : Place and manner of articulation ,Various stricture types **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –IV	1.Classification and description of speech sound : a) Distinction between consonant and vowels b)Articulatory & Asoustic criteria for classification and description of consonant c))Articulatory & Asoustic criteria for classification and description of vowels d) Semi-Vowels : Diphthongs and Triphthong **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	

Reference Books:

1. Odia Bhasara Unmesa O Bikasha- by Dr. Basudev Sahoo.
2. Prithivira Bhasa Pariibara- by Dr. Basudev Sahoo.
3. Bhasa O Bhasa Bigyana- by Prof. Premananda Mohapatra.
4. The Oriya Script: Origin Development and Sources. (E- Content, academia, edu)
5. Oriya Language- Structure, Writing & Alphabet- Mustgo//www. Mustgo.com/worldlanguages/oriya.
6. Swadhinata parabarti Odia Sahityara Bhumi O Bhumika- by Ed Dr. Baishnaba Charana Samal.
7. Bhasa-sastra Parichaya- Goloka Bihari Dhala.

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SECOND SEMESTER

Paper Code -1.2.2

Paper Name – Natural Language Processing (NLP)-II

. Marks -80+20(Internal Assessment)=100 , 6 Credits

UNITS	SUBJECTS/TOPICS	MARKS	
Unit –I	1.Introduction : Origins and challenges of NLP- Language Modeling Grammar based L.M. Statistical LM – Regular Expressions. Finite – State Automata – English Morphology. Transducers for lexicon and rules. Tokenization, Detecting and Correcting Spelling Errors. Minimum Edit Distance **Question Pattern -**	20	

	(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)		
Unit –II	1. Syntactic Analysis: Context–Free Grammars, Grammar rules for English, Treebanks, Normal forms for Grammar – Dependecy Grammar – Syntactic Parsing, Ambiguity. Dynamic Programming parsing – Shallow parsing – Probabilistic CFG, Probabilistic CYK. Probabilistic Lexicalized CFGs – Features Structures, Unification of feature structures. **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –III	1. Semantics: Requirements for representation, First – Order Logic, Description Logics – Syntax – Driven Semantic analysis, Semantic attachments – Word Sense, Relations between senses, Thematic roles. **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –IV	1. Discourse Analysis and Resources: Discourse segmentation, Coherence – Reference Phenomena, Anaphora Resolution using Hobbs and Centering Algorithm – Coreference Resolution – Resources: Porter Stemmer, Lemmatizer, Penn Treebank, Brills Tagger, WorldNet, PropBank, FrameNet, Brown Corpus, British National Corpus (BNC). **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	

Reference Books:

1. Breck Baldein,- Language Processing with Java and LingPipe CookBook, Atlantic Publisher, 2015.
2. Richard M Reese,- Natural Language Pricessing with Java, O Reilly Media, 2015.
3. Nitin Indurkhya and Fred J. Damerau,- Handbook of Natural Language Processing, Second Edition, Chapman and Hall/ Crc Press, 2010.
4. Tanveer Siddiqui, U.S Tiwary, - Natural Language Processing and information Retrieval, Oxford.

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SECOND SEMESTER

Paper Code -1.2.3

Paper Name –Old and Mediaval Literatre –Critical Survey

. **Marks** -80+20(Internal Assessment)=100 , 6 Credits

UNITS	SUBJECTS/TOPICS	MARKS	
Unit –I	1.Oral Tradition : General Survey of Odia Folk Literaturein its various forms-Folk songs ,Folk sayings **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks**	20	
Unit –II	1.Folk Tales,Folk Plays etc. **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks**	20	
Unit –III	1.Historical and Cultural background of Odia Literature **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –IV	1.ReligiousFoundation of Odia Literature,Growth of religious in Odia Literature **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	

Reference Books:

1. Odia Sahityara Madhya Parva O Uttara Parva- by Surendra Mohanty.
2. Odia Lokasahitya O Loka Sanskruti- by Krushna Chandra Pradhan.
3. Odishara Sanskrutika Itihasa O Odia Sahitya- by Dr. Niranjan Sahoo.
4. Colonial Odia Literature- by Ramesh p Panigrahi (A Mital Publication).
5. Kalajayi Odia Kabita- Dr. Srikanta Ku Barik.
6. Odia Bhasa: Eka Aitihasika Anusilana- by Dr. Chinmayee Mohapatra.
7. Odia Samalochana Sahitya Srasta o Srusti- by Dr. Narayan Sahoo.

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SECOND SEMESTER

Paper Code -1.2.4

Paper Name –Editing and Textual Criticism

. Marks -80+20(Internal Assessment)=100 , 6 Credits

UNITS	SUBJECTS/TOPICS	MARKS	

Unit –I	1.A Pal Leaf MSS collecting from a Museum to be edited with textual criticism under the guidance of a faculty member othe department . **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –II	1.Theoritial aspects :Method of editing and Textual Criticism. 2.Ancient Scripts and methods of writing 3. Preparation of MSS Catalogue & types of MSS 4. Reasons of corruption of Texts **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –III	1.Tracing the edition –Determining the time of the texts , 2. Study of the colophon . 3.Language and Literature study of the texts . **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –IV	1.Methods of collection & preservation of texts 2.History of Odia editing & Textual criticism **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	

Reference Books:

1. Critical Discourse in Odia- Edited by Jatindra Kumar Nayak & Animesh Mohapatra.
2. Methods of Textual Editing by Dearing, Vinton A. Vinton and Powel Lawrence Clark.
3. A new Approach to Textual Criticism- by Tommy Waserman & Peter J Gurry.
4. Samalochana Tattva- by Dinabandhu Mishra.

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SECOND SEMESTER

Paper Code -1.2.5

Paper Name –Research Methodology

. **Marks -**80+20(Internal Assessment)=100 , 6 Credits

UNITS	**SUBJECTS/TOPICS**	**MARKS**	
Unit –I	1.Meaning of Research and research Methodology 2. Types of Research 3.Characteristics of Research 4.Qualifications of Researchers **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –II	1.Techniques for writing a research paper 2.Reference and Bibliography 3.Types of Research Journals(Peer Reviewed , UGC Care Listed , Impact Factor Journal,) 4.Details of 10 Odia Research Journals **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	

Unit –III	Research Design : (Meaning of Research Design,Need for Research Design and Features of a good Research Design) **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –IV	Transliteration from Odia to Roman scripts and Roman to Odia scripts of any unknown stanza of Odia Poetries. **Question Pattern -** One stanza of Odia Poem may be asked to transliterate into Roman scripts with diacritical marks 10 marks & One Odia stanza of Odia Poem written in Roman Scripts with diacritical marks may be asked to transliterate into Odia scripts 10 marks (10+10=20)	20	

Reference Books:

1. Research Methodology (concepts & Cases) by Deepak Chawla & Neena Sondhi.
2. MLA Style Manual and Guide to Scholarly Publishing.
3. MLA Handbook for Writers of Research Papers.
4. Research Methodology: Methods and Techniques by Dr. CR Kothari.

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THIRD SEMESTER

Paper Code -2.3.1

Paper Name –Odia Language & Linguistics –III

(Morphology and Syntax)

. **Marks** -80+20(Internal Assessment)=100 , 6 Credits

UNITS	SUBJECTS/TOPICS	MARKS	
Unit –I	1.Meaningand branches of Morphology: a) Branches of Morphology –Inflection and derivational Morphology, b) Classification of words : structure and Classification(Simle/complex/compound/compound – complex words) **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –II	1.Parts of Speech (Word classes) a) Content words/Open classes of words(Noun ,Verbs, adjectives, Adverbs) b) Function words(Close classes of words) i.Syntactic devices ii)Noun determiner iii)Auxiliaries iv) Intensifiers c) Identification and classification of Parts of Speech ,meaning ,form & function **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –III	1.Process of Word formation : a) Affixation/Multiple affixation (Inflection,Derivation) b) Back Formation ,c)Compounding,d) Combinding forms e) Re-duplication f) Clipping ,g) blending h)Echoism/Onomatopoeia **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	

Unit –IV	1. Morphophonemic Changes : a) Loss of Phonemes b) Addition of Phonemes c) Simple consonant change d) Assimilation e) Dissimilation f) Synthesis g) Change of Syllabic vowel **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	

Reference Books:

1. Odia Bhasara Unmesa O Bikasha- by Dr. Basudev Sahoo.
2. Prithivira Bhasa Pariibara- by Dr. Basudev Sahoo.
3. Bhasa O Bhasa Bigyana- by Prof. Premananda Mohapatra.
4. The Oriya Script: Origin Development and Sources. (E- Content, academia, edu)
5. Oriya Language- Structure, Writing & Alphabet- Mustgo//www. Mustgo.com/worldlanguages/oriya.
6. Swadhinata parabarti Odia Sahityara Bhumi O Bhumika- by Ed Dr. Baishnaba Charana Samal.
7. Bhasa-sastra Parichaya- Goloka Bihari Dhala

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THIRD SEMESTER

Paper Code -2.3.2

Paper Name –Natural Language Processing (NLP)- III

. Marks -80+20(Internal Assessment)=100 , 6 Credits

UNITS	SUBJECTS/TOPICS	MARKS	

Unit –I	1. Language Processing and Python: Computing with Language: Texts and words. Handling Text using Python List. Computing with Language: Simple Statistics- Frequency Distributions etc. Making Decisions and Taking control using Python. Automatic Natural Language Understanding. **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –II	1. Accessing Text Corpora and Lexical Resources: Accessing Text Corpora-Gutenberg Corpus, Wed and Chat text, Brown Corpus, Reuter Corpus, Inaugural Address Corpus – Corpora in other Languages. Conditional Frequency Distributions. Lexical Resources-Wordlist Corpora, Pronouncing Dictionary, Comparative Word Lists, Shoebox and Toolbox Lexicons. WordNet: The WordNet Hierarchy, Lexical Relations, Smantic Similarity. **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –III	1. Processing Raw Text: Accessing Text from the Web and from Disk- Electronic Books- Dealing with HTML, Processing Search Engine Results, Processing RSS Feeds, Extracting Text from PDF, MSWod and other Binary Formats. Strings: Text Processing at the Lowest Level: Basic operations with strings Accessing Individual Characters, Accessing Substrings, More operation Strings, The Difference between Lists and Strings. Text Processing with Unicode. Regular Expressions for Detecting Word Patterns. Useful Applications of Regular Expressions Extracting Word Pieces, Finding Word Stems, Searching Tokenized Text. Normalizing Text: Stemmers, Lemmatization's. Segmentation- Formatting: From Lists Strings. **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	

Unit –IV	1. Supervised Classification, Examples of Supervised Classification, Evaluation, Decision Trees, Naïve Bayes Classifiers, Modelling Linguistic Patterns. **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	

Reference Books:

1. Natural Language Processing with Python Steven Bird, EDwanLein and EDuwardLoper, Oreilly (isbn- 978-0-596-51649-9)
2. Text Analytics with Python, Dipanjan Sarkar.

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THIRD SEMESTER

Paper Code -2.3.3

Paper Name –Odia Poetries :A Critical Study

. **Marks** -80+20(Internal Assessment)=100 , 6 Credits

UNITS	SUBJECTS/TOPICS	MARKS	

Unit –I	1. Form of poetry & types of poetry : a)Metaphisical ,didactic,Pastoral,Satire 2.Theme of Poetry : a)Love ,Nature ,Politics,Beauty & Truth **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –II	1.Art of Poetry :Language ,Style and Metre 2.Critical survey of Odia Poetry 3. Relevance of traditional forms in evolution of modern Odia poetry **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –III	1. Modern development in form ,theme,style & metre **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –IV	1. Special study of the main schools of Odia poetry **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	

Reference Books:

1. Adhunika Odia Kavya Kabitare Bastabadi Chetana- by Indu Mishra.
2. Odia Kavya Kausala- Dr. Sudarshana Acharya.
3. Adhunika Odia Kabitare Rahasyabadi Chetana- by Soudamini Choudhury.
4. Kabita: stiti O bistruti- by Sanghamitra Mishra.
5. Addhunika Odia Kabita Samikhyana- by SatrughnaPandaba.

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THIRD SEMESTER

Paper Code -2.3.4

Paper Name –Modern Odia Texts : Poetry and General Prose

. **Marks** -80+20(Internal Assessment)=100 , 6 Credits

UNITS	SUBJECTS/TOPICS	MARKS	
Unit –I	1 .Radhanath Ray –"**Maha-yatra"-1st sarga** 2.Gangadhar Meher –"**bhakti"** 3.Annada Shankar ray –"**srujana swapna"** 4.Mayadhara Mana singha-" **taruna kabira asha(Dhupa)"** **Question Pattern –** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –II	1 .Sachidananda Routray **–"Alaka Sanyal"** 2.Guru Prasad Mohanty **–"Champaphula"** 3.Prasanta Kumar Mishra **–"Ethara Konrke"(Mun Eka katharua ho)** **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –III	1 .Radhanath Ray **–"Bibeki"** 2.Gopal Chandra Praharaj **–"Bhagabata Tungire** Sandhya"(1&2 Sandhya) **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	

Unit –IV	1 .Mayadhara Manasingha **–"Kabi O Kabita"** 2.Bhubaneswara Behera –"**Gaanra Daka"** **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	

Reference Books:

1. Mahajatra of Radhanath Ray, Edited by Dr. Dilip Kumar Swain.
2. Mohajatra O Radhanath, by Prof. Benudhar Rout.
3. Others are texts with authors.

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DEPT OF LINGUISTIC & NATURAL LANGUAGE PROCESSING

THIRD SEMESTER

Paper Code -2.3.5

Paper Name – Writing of a Research Paper and presentation through PPT Mode

. Marks -100 , 6 Credits

UNITS	SUBJECTS/TOPICS	MARKS	

Unit –I ,II,III & IV	1 . Writing of a Research Paper and presentation through PPT mode (Writing of paper not less than 10 pages with font size 14 in Odia /12 Size in Enlish) **Writing of paper contains 70 marks** **Presentation along with viva-voce contains 30 marks** **(During the presentation all faculty member of the faculty will remain present and it will be prsided by HOD)**	70+30	

- Students should write a research paper within 10 (ten) pages.
- The Script of papers is Odia only.
- Font size- 14
- This should be presented through PPT mode before the faculty members of the department in chairmanship of concerned HOD.

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FOURTH SEMESTER

Paper Code -2.4.1

Paper Name –Odia Language & Linguistics-IV

(Basic Concept of Linguistic Semantics)

Marks - 80+20(Internal Assessment)=100 , 6 Credits

UNITS	SUBJECTS/TOPICS	MARKS	
Unit –I	1 **.** Meaning of Semantics a) The Systematic Study of meaning b) The nature of Language c) Demonstrating Semantic Knowledge **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –II	1 . Lexicography **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –III	1 .Trnslation (10 Sentences) From Englis/Hindi to Odia 2. 1 .Trnslation (10 Sentences) From Odia to English /Hindi **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –IV	1 .Sentence Structure of Odia,Sanskrit ,Hindi & English **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	

Reference Books:

1. Perspectives on Semantic Roles. Editor- Silvia Luraghi. Available in E-platform.
2. Odia Bhasara Unmesa O Bikasa- Prof. Basudev Sahoo.
3. Bhasa O Bhasa-bigyana- Prof. Premananda Mohapatra.

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FOURTH SEMESTER

Paper Code -2.4.2

Paper Name – Natural Language Processing (NLP)- IV

. Marks - 80+20(Internal Assessment)=100 , 6 Credits

UNITS	SUBJECTS/TOPICS	MARKS	
Unit –I	1 .Problem Solving: Introduction to AI – AI Applications – Problem solving agents – search algorithms – uniformed search strategies – Heuristic search strategies – Local search and optimization problems – adversarial search – constraint satisfaction problems (CSP). **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –II	1.Probabilistic Reasoning: Acting under uncertainly – Bayesian inference – naïve bayes mod4els. Probabilistic reasoning – Bayesian networks – exact inference in BN – approximate inference in BN- causal networks. **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –III	1.Supervised Learning: Introduction to machine learning- Linear Regression Models: Least squares, single & Multiple variables Bayesian Linear regression, gradient decent, Linear Classification Models: Discriminant function – Probabilistic discriminative model – Logistic regression, Probabilistic generative model – Native Bayes, Maximum margin classifier – Support vector machine, Decision Tree, Random forests. **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	

Unit –IV	1.Ensemble Techniques and Unsupervised Learning: Combining multiple learners: Model combination schemes, Voting, Ensemble Learning- bagging, boosting, stacking, Unsupervised learning: K-means, Instance Based Learning: KNN, Gaussian mixture models and Expectation maximization. **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	

Reference Books:

1. Breck Baldein,- Language Processing with Java and LingPipe CookBook, Atlantic Publisher, 2015.
3. Richard M Reese,- Natural Language Pricessing with Java, O Reilly Media, 2015.
4. Nitin Indurkhya and Fred J. Damerau,- Handbook of Natural Language Processing, Second Edition, Chapman and Hall/ Crc Press, 2010.
5. Tanveer Siddiqui, U.S Tiwary, - Natural Language Processing and information Retrieval, Oxford.

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FOURTH SEMESTER

Paper Code -2.4.3

Paper Name-Communication and Computer

. Marks - 80+20(Internal Assessment)=100 , 6 Credits

UNITS	SUBJECTS/TOPICS	MARKS	

Unit –I	1.Language Media and Communication, 2.Types of Communication(Intra-personal & Inter-personal,Group & Mass Communication) 3.Verbal and Non-verbal Communication **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –II	1 .Language of Communication 2.Language for Media 3.Writing for print ,Radio and TV 4.Reporting and Editing **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**		
Unit –III	1 .Computer Application : DTP in Odia ,Sanskrit and Enlish 2.Page Maker ,Photoshop 3.Power Point **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**		
Unit –IV	1.Voice over(Diction,Pause,Punctuation,Modulation,Varietion Delivery,Publishing) **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**		

Reference Books:

1. Computer Samiksa- by Rudra Prasad Mishra.
2. Samprasarana Siksare Yogayogo (Communication in Extension Education)-by Subasini Mohapatra.
3. Siksare Suchana O Yogayogo Prayukti Vidya- by Sagarika Rout.
4. Communication Skills- by Sanjay Kumar & Puspa Lata, Second Edition- 2015.
5. Computer Fundamentals- by Pradeep Ku. Mishra & Priti Sinha, 6th Edition- 2004.
6. Odiare Computer Sikhya- by Dr. Rudra Narayan Mohapatra.

7. Introduction to Language and Communication- by Brahamananda Padra.

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FOURTH SEMESTER

Paper Code -2.4.4

Paper Name –Culture of Lord Shree Jagannatha

. Marks -80+20(Internal Assessment)=100 , 6 Credits

UNITS	SUBJECTS/TOPICS	MARKS	
Unit –I	Background of Shree Jagannath and its development **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –II	Relation of other cultures(Baudha & Jaina) to Shree Jagannatha Culture. **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	
Unit –III	Vaishnava Culture and Shree Jagannatha Culture **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	

Unit –IV	Tribal Culture and Shree Jagannatha Culture **Question Pattern -** **(One long question 10 marks,one short question 6 marks and two short questions 2*2=4,Total 20 marks)**	20	

Reference Books:

1. Sri Jagannath Tattva O Tatya- by Dr. Pradeep Ku Chaudhy.
2. Jagannath: The Mysterious Lord- by (Edited) Prof. S.C Panigrahi & Dr. Bibudharanjan.
3. Jagannath Mandira O Jagannath Tattva- by Pandit Suryanarayan Dash.
4. Jaya Jagannath- by Dhruba Maharaja Dasa.
5. Sri Jagannath- by Mahi Mohan Tripathy.
6. Sri Jagannath Chetana- Edited by Prof. Surendra Nath Dash.
7. Purusottama Sri Jagannathanka Ratha Patra- Edited by Dr. Purna Chandra Mishra.
8. Sri Jagannath Sanskruti O Aitihya- by Dr. Rama Ch. Mishra.
9. The Saga of Sri Jagannnath- by Manij Das.
10. Sri Jagannath Sanskruti Adhyayana- by Dr. Ajay Kumar Mishra.

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FOURTH SESTER

Paper Code -2.4.5

Paper Name –DISSERTATION

. Marks -100 , 6 Credits

UNITS	SUBJECTS/TOPICS	MARKS	

Unit –I ,II,III & IV	1 . Writing of a Dissertation and presentation mode (Writing of paper not less than 50 pages with font size 14 in Odia /12 Size in Enlish) **Writing of Dissertation contains 70 marks** **Presentation along with viva-voce contains 30 marks** **(During the presentation all faculty member of the faculty will remain present and it will be presided by HOD)**	70+30	

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