BSc. ITM 2ND SEMESTER (NEP 2020)

SUBJECT CODE	SUBJECT NAME
MAJOR-P-3	Principle of Management
MAJOR-P-4	JAVA Programming
MINOR-2-P-1	Mathematical Physics-I
MDC-2	Computer Fundamental
AEC-2	English
SEC-1	Analytical Thinking & Logical Reasoning

Semester-II

Core III **Principle of Management**

Course Objectives:

The objective of this course is to help the students to get aware towards varied management principles and practices. This course covers the explanations about the fundamentals of management disciplines in organizational context. It details the different functions of management such as planning, organizing, staffing, directing and controlling.

Course Outcome: On completion of this course, students will be able to

- UnderstandtheconceptsrelatedtoBusiness.
- Demonstratetheroles,skillsandfunctionsofmanagement.
- Focusonthetheoriesofmanagement.
- Demonstrateaclearunderstandingoftheconcepts,tools&techniquesuse dbyexecutives in developing and executing strategies and will appreciate its integrative andinterdisciplinarynature.

Unit-I:

- **Nature of Management:** Meaning, Definition, importance & Functions, Nature ofManagementasArt,Science&Profession,levelsofmanagement, managerialtasksandskills.
- **DifferentSchoolsofThoughts:**ClassicalSchool-contributionsofTaylorandHenriFayolNeo-classical School-Human Relations approach and Behavioural Science Approach;ModernSchool;SystemapproachandContingencyapproach.
- **Outcome:** The students will be able to understand the basic concepts, principles, approaches and practices of management. It inculcates the ability to apply multifunctional approach to organizational objective.

Unit-II:

- **Planning-**Meaning-Need&Importance,types, –advantages&limitations,**Forecasting-** Need & Techniques, **Decision making** - Types - Process of rational decision making &techniquesofdecision making,
- **Organizing-** Concept, importance, principles, different organization models-line and staff;Functional;Departmentation-need,basis,principles,**DelegationofAuthority-** Elements,stepsbarriers; Centralization and Decentralization of Authority; Span of Management; conceptanddeterminingfactors.
- **Outcome:** The students will be able to have a conceptual knowledge about the planning and decision making and also able to apply the concept of organizing for the effective functioning of management.

Unit-III:

- **Staffing -** Meaning & Importance. **Directing**: concepts, importance of directing, Leadership:Concept,importance,types,leadershiptraits,Tannenbaum&Schmidt'sMo delandBlake&Mouton'sModel.
- **Outcome:** The students will be able to evaluate leadership style to anticipate the consequences of each leadership style, diagnose qualities of efficient leadership, and able to demonstrate elements of directing and its applications.

Unit-IV:

- **Motivation:** Concept, importance, importance of need theory, and contributions ofMcGregor, Maslow, Herzberg. Coordination: concepts, importance, principles andimplementationtechniques.Control:concepts,importance, processandtoolsofcontrol.
- **Outcome:** The students will be able to demonstrate clear understanding of the concepts, tools and models of Motivation, coordination and controlling.

Text Books:

- ✓ *HaroldKoontzandIteinzWeibrich,EssentialofManagement,McGrawHills International.*
- ✓ *K.Aswathapa,EssentialofBusinessAdministration,HimalayaPublishingHouse.*

Reference Books:

- ✓ *L.M.PrasadPrinciples&practiceofmanagement-SultanChand&Sons–NewDelhi.*
- ✓ *Tripathi,Reddy,PrinciplesofManagement,TataMcGrawHill.*

Core III- Project Work

Guidelines for the Project:

Project is an assignment tostrengthen the understanding of fundamentals through effectiveapplication of theoretical concept. The objective of the project course is to help the student developability to apply multidisciplinary concepts, tools and techniques to solve organizational problems.Theproject maybefromanyoneofyourareasrelatedtotheconcernedsubject.

Projectreport: TheProjectReportmusthavethefollowing.

- CoverPage–musthavethenameandrollno.ofthestudentandthename& designationoftheguidealongwiththetitleoftheProject.
- Acknowledgement,declaration,Certificateoforiginalitysignedbytheguidewithdate
- Detailedtables&figuresofcontentswithpagenos.
- AllpagesoftheProjectReportmustbenumberedasreflectedinIndexofChapters.

Index of Chapters:

- Chapter-I:Introduction&Reviewofliteratures
- Chapter-II: ResearchMethodology
- Chapter-III:Conceptual& TheoreticalDescriptions
- Chapter-IV:DataAnalysis&Interpretations
- Chapter-V:Conclusion,Findings,suggestions&Scopeforfurtherresearch.
- References,Annexure,etc.

Core IV **Java Programming**

Course Objectives:

- Tounderstandthebasicconceptsandfundamentalsofplatformindependentobject-orientedlanguage.
- Todemonstrateskillsinwritingprogramsusingexceptionhandlingtechniquesandmulti threading.
- Tounderstandstreamsandefficientuserinterfacedesigntechniques.
- UsethesyntaxandsemanticsofjavaprogramminglanguageandbasicconceptsofOOP.

CourseOutcomes:

On completion of this course, students will be able to

- Developreusableprograms usingtheconcepts of inheritance,polymorphism, interfacesandpackages.
- ApplytheconceptsofMultithreadingandExceptionhandlingtodevelopefficient anderrorfreecodes.
- DesigneventdrivenGUIandwebrelatedapplicationswhichmimictherealwordscenario s

Unit-I:

Introduction to Java: Java History, Architecture and Features, Understanding the semantic andsyntax differences between C++ and Java, Compiling and Executing a Java Program, Variables,Constants, Keywords (super, this, final, abstract, static, extends, implements, interface) , DataTypes,Wrapper class,Operators(Arithmetic,LogicalandBitwise)andExpressions,Comments,Doing Basic Program Output, Decision Making Constructs (conditional statements and loops) andNesting,JavaMethods(Defining,Scope,PassingandReturningArguments,TypeConversi on and Type and Checking, Built-in Java Class Methods). Input through keyboard using CommandlineArgument,theScannerclass,BufferedReaderclass.

Outcome: Students will be able to identify java language components and how they work together in applications.

Unit-II:

Object-Oriented Programming Overview: Principles of Object-Oriented Programming, Defining& Using Classes, Class Variables & Methods, Objects, Object reference, Objects as parameters,in all classes, Garbage Collection. Constructor-types of constructor, this keyword, super keyword.MethodoverloadingandConstructoroverloading.Aggregationvs Inheritance,Inheritance:extends vs implements, types of Inheritance, Interface, Up-Casting, Down-Casting, Auto-Boxing,Enumerations,Polymorphism,MethodOverridingandrestrictions.Package:Pre-definedpackagesandCustompackages.

Outcome: Students will be able to solve real world problem using OOP techniques.

Unit-III:

Arrays: Creating & Using Arrays (1D, 2D, 3D and Jagged Array), Array of Object, ReferencingArrays Dynamically. Strings and I/O: Java Strings: The Java String class, Creating & Using StringObjects, Manipulating Strings, String Immutability & Equality, and Passing Strings to & fromMethods, String Buffer Classes and String Builder Classes. IO package: Understanding StreamsFileclassand itsmethods,Creating,Reading,Writingusing
Classes: Byte and Character streams, File Output Stream, File Input Stream, File Writer, FileReader,InputStreamReader,PrintStream,PrintWriter.CompressingandUncompressing File.
Outcome: Students will be able to solve the various problems in array and string, working with file.

Unit-IV:
ExceptionHandling,Threading,NetworkingandDatabaseConnectivity:Exceptiontypes,uncaught exceptions, throw, built-in exceptions, creating your own exceptions; Multi-threading:TheThreadclassandRunableinterface,creatingsingleandmultiplethreads,Threadprioritization, synchronizationandcommunication, suspending/resumingthreads.Usingjava.netpackage,OverviewofTCP/IPandDatagramprogramming.Accessingandmanipulatingdatabasesusing JDBC.
Outcome: Students will be able to develop multithreaded applications with synchronization, working with how to handle exception.

Text Books:

- ✓ *E.Balagurusamy,"ProgrammingwithJava",TMH,4/Ed.*

Reference Books:

- ✓ *HerbertSchildt,"TheCompleteReferencetoJava",TMH,10/Ed.*

Core IV- Java Programming Lab

Write the following programs using Java

- Tofindthesumofanynumberofintegersenteredascommandlinearguments.
- Tofindthefactorialofa givennumber.
- Toconvertadecimaltobinarynumber.
- Tocheckifanumberisprimeornot,bytakingthenumber asinputfromthekeyboard.
- To find the sum of any number of integers interactively, i.e., entering every number fromthekeyboard,whereasthetotalnumberofintegersisgivenasacommandlineargument.
- Write a program that show working of different functions of String and String BufferclasseslikesetCharAt(),setLength(),append(),insert(),concat()andequals().
- Writea programto createa–"distance"classwith methodswheredistanceiscomputedin terms of feet and inches, how to create objects of a class and to see the use of thispointer.
- Modify the– "distance" class by creating constructor for assigning values (feet andinches) to the distance object. Create another object and assign second object as referencevariable to anotherobject reference variable. Further create a third object which is a cloneofthefirstobject.
- Write a program to show that during function overloading, if no matching argument isfound,thenJavawillapplyautomatictypeconversions (fromlowertohigher datatype).
- Write a program to show the difference between public and private access specifiers.The program should also show that primitive data types are passed by value and objectsarepassedbyreferenceandtolearn useoffinalkeyword.
- Write a program to show the use of static functions and to pass variable length argumentsinafunction.
- Write a program to create a multilevel package and also creates a reusable class togenerate Fibonacci series, where the function to generate Fibonacci series is given in adifferentfilebelongingto thesamepackage.
- Write a program – "Divide by Zero" that takes two numbers aand b as input,computes a/b,andinvokesArithmeticExceptiontogenerate amessagewhen thedenominatoriszero.
- Writeaprogramto showtheuseofnestedtrystatementsthatemphasizesthe sequenceofcheckingforcatchhandlerstatements.
- Writea programtocreateyourownexceptiontypestohandlesituation specifictoyourapplication (Hint: Define a sub class of Exception which itself is a sub class of Throwable).
- Writeaprogramtodemonstrateprioritiesamongmultiplethreads.
- Write a program to demonstrate different mouse handling event like mouseClicked (),mouseEntered (),mouseExited (),mousePressed (),mouseReleased ()& mouseDragged ().
- Writeaprogramtodemonstratedifferentkeyboardhandlingevents.
- Writeaprogramtodemonstratetheconceptofboxingandunboxing.

- Create a multi-file program where in one file a string message is taken as in put from theuserandthe functiontodisplaythemessageonthe screenisgiveninanotherfile(makeuseofScannerpackagein thisprogram).
- Write a program that creates illustrates different levels of protection in classes/sub classesbelongingtosamepackageordifferentpackages

Mathematical Physics-I

Course Outcomes

- Basic understanding of Differential equations and their solutions, conceptual understanding of calculus.
- Basic understanding of vector calculus and its differentiation.
- Use of vector calculus to understand vector integration. Dirac delta function and its properties.
- Understanding of orthogonal curvilinear coordinates and its application in vector differentiation.
- To understand the basic algorithm in application to functional algebra and error analysis.

Unit I

- **Calculus -I:** Plotting of functions, Intuitive ideas of continuous, differentiable functions and plotting of curves, Approximation: Taylor and binomial series (statements only), First Order Differential Equations and Integrating Factor, Second Order Differential equations: Homogeneous Equations with constant coefficients, Wronskian and general solution, Statement of existence and Uniqueness Theorem for Initial Value Problems, Particular Integral.

- **Calculus-II:** Calculus of functions of more than one variable: Partial derivatives, exact and inexact differentials. Integrating factor with simple illustration, Constrained Maximization using Lagrange Multipliers,

Unit II

- **Vector algebra:** Recapitulation of vectors: Properties of vectors under rotations. Scalar product and its invariance under rotations, Vector product, Scalar triple product and their interpretation in terms of area and volume respectively, Scalar and Vector fields.

- **Vector Differentiation:** Directional derivatives and normal derivative, Gradient of a scalar field and its geometrical interpretation, Divergence and curl of a vector field, Del and Laplacian operators, Vector identities.

Unit III

- **Vector Integration:** Ordinary Integrals of Vectors, Multiple integrals, Jacobian, Notion of infitesimal line, surface and volume elements, Line, surface and volume integrals of Vector fields, Flux of a vector field, Gauss ' divergence theorem, Green's and Stokes Theorems and their applications (no rigorous proofs)
- **Dirac Delta function and its properties:** Definition of Dirac delta function. Representation as limit of a Gaussian function and rectangular function, Properties of Dirac delta function

Unit IV

Orthogonal Curvilinear Coordinates: Orthogonal Curvilinear Coordinates, Derivation of Gradient, Divergence, Curl and Laplacian in Cartesian, Spherical and Cylindrical Coordinate Systems, Comparison of velocity and acceleration in cylindrical and spherical coordinate system.

Text Books:

- ✓ *Mathematical Methods for Physicists, G.B.Arfken, H.J.Weber, F.E.Harris (2013,7th Edn.,Elsevier)*
- ✓ *Advanced Engineering Mathematics, Erwin Kreyszig (Wiley India)*

Reference books:

- ✓ *Mathematical Physics C. Harper (Prentice Hall India)*
- ✓ *Complex Variable: Schaum's Outlines Series M. Spiegel (2nd Edition, Mc- Graw Hill Education)*
- ✓ *Complex variables and applications, J. W. Brown and R.V. Churchill*
- ✓ *Mathematical Physics, Satya Prakash (SultanChand)*
- ✓ *Mathematical Physics, B. D. Gupta (4th edition, Vikas Publication)*
- ✓ *Mathematical Physics and Special Relativity, M. Das, P.K. Jena and B.K.Dash (Srikrishna Prakashan)*
- ✓ *Mathematical Physics –H.K.Das, Dr. Rama Verma (S. ChandPublishing)*
- ✓ *Mathematical Physics, B.S. Rajput,(Pragati Prakashana*

Computer Fundamentals

Course Objectives:

• Introduce number systems and data representation

• Understand functional units and components of computer

• Introduce the emerging technologies

Learning Outcomes:

Upon completion of this course, students will be able to:

• Understand the basic organization of a computer and the number system

• Learn about the working of commonly used input-output and memory devices

• Understand the role of Operating system and Computer Networks

• Know about some of the emerging computing technologies and web services

UNIT-1:

Computer Basics: Simple Model of a Computer, Characteristics of Computers, Hardware and Software, working of a Computer, Stored Program Concept, Problem Solving with computer: Flowchart, Algorithms, Programming.

Computer Software: Introduction to computer software, classification of computer software, system software, application software, firmware, middleware

UNIT-2:

Input/output Units: Input devices, Output devices, Computer Memory: Introduction, Read Only Memory, Serial Access Memory, Cache memory, primary memory, secondary storage devices, magnetic tapes, hard disks, SSD, optical drives, USB flash drivers, Memory cards, Mass storage devices, Memory Hierarchy.

UNIT-3:

Operating Systems: Definition, Batch Operating System, Multiprogramming Operating System, Time Sharing Operating System, Multiprocessing Operating System. Services of OS.

Computer Networks: Concepts of Networking-LAN, WAN, MAN, Network topologies.

Internet and the World Wide Web.

UNIT-4:

Emerging Computing Environments: Peer to Peer Computing, Grid computing, distributed computing, Cloud Computing: Introduction, cloud services, cloud deployment models. Email, video conferencing, e-Learning, e-Banking, UPI, e-commerce, e-Governance, social networking, emerging computer applications.

Text Book:

✓ *Fundamentals of Computers by V Rajaraman 6th edition PHI Learning Private Limited*

Reference Books:

✓ *A First Course in Computers by Sanjay Saxena, Vikas Publishing House.*

✓ *Computer Fundamentals by Anita Goel, Pearson publication*

English

Introduction

This Course aims at providing students familiarity with all components of language learning; listening, speaking, reading, writing, grammar and vocabulary which will eventually help in development of communication skills. This is an activity-based, goal-oriented, functional course, which aims to make the students able and efficient communicators by helping them to be self-reflexive about English. This course has a predefined context of being supportive and complementary to the core courses in various disciplines. Therefore, unlike most other courses in English Communication on offer, it does not seek to build facile fluency that passes off as communicative competence. Rather, it intends to equip the students with the relevant skills of presentation and expression needed in the academic as well as in the professional domains. While reading skills exercises are meant to promote the acquisition of analytical and comprehension skills, writing skills exercises are centred on sentence construction, paragraph development and précis writing. In this course there is ample scope to build the speaking and listening skills of students with an emphasis on interactive learning and articulation.

Course Objectives

- Develop in students the required knowledge, skills, and judgement around human communication that facilitate their ability to work collaboratively with others.
- Enable the students to understand and practise different techniques of communication. Through this course, they will familiarise themselves with different types of communication. Enhance the employability of students by developing in them the required skills of communication in English, so as to enable them to: 2 i. Speak correctly, intelligibly and fluently as well as to listen and comprehend accurately when spoken to, so as to be able to communicate effectively and with confidence in a variety of social, academic and work-related situations; ii. Read and comprehend accurately the various kinds of written texts which they may be expected to deal with;

iii. Write effectively in a number of different genres (forms) of writing, relevant to social, academic and work-related needs;

- Develop interpersonal skills and the attitudes required for effective functioning in different social and work-related situations.
- Provide cognitive and cultural enrichment through exposure to a variety of humanistic learning experiences. General Pedagogical Principles 1. Instruction will essentially be activity-based. Each session will provide a variety and range of activities, pitched at different levels of linguistic competence. Group activities will be encouraged. The links between theory and practice will constantly be exemplified and highlighted. Theoretical inputs will be provided, as far as possible, in a non-technical manner. 2. Periodical tests may be conducted to assess skills and application of theoretical principles and not recalling information from memory. The skills of Listening and

Speaking may be tested through oral examinations in the classes, depending on time and scope. 3. An inventory of available software, including audio/ audio-visual materials should be made, and the use of such materials be standardised across all colleges. If necessary, software tailored to the requirements of the program should be produced in collaboration with appropriate agencies. 4. Although portions of selected texts will be used to develop the skills, a teacher is free to use material recommended by the experts. 5. The course cannot be effectively implemented unless all instructors are properly oriented. It should be ensured that orientation programs are organised before the curriculum is implemented. Handbooks must be produced and made available to all instructors. 3 6. Workshops for the development of instructional materials by members of college faculties should be organised periodically, as a part of on-going orientation.

Attention

The course drives away the myth that communicative competence in a language is honed, built and effectively practiced by learning and mastering the grammar, phonetics of a language or appropriating the accent and structures of the native tongue. Rather it is an adaptation with equal blend of the first language and the context in collaboration with the foreign tongue achieved by suitable use of texts from literature. So the teachers as well as students are advised to use as much literary texts as possible from the texts prescribed and other sources for providing an exposure to the students to be aware of the truth that literature enables skilful communication. The examination questions will be set according to the texts and topics prescribed.

Unit-I

English Language and Communication: Introduction (9 hours)

I. Communication, its importance and factors that determine communication (sender, receiver, channel, code, topic, message, context, feedback, barriers) models of communication, the information gap principle: given and new information; information overload, redundancy and cliches, the importance of audience and purpose ii. Types of communication: horizontal, vertical, interpersonal, lateral and grapevine iii. Verbal and nonverbal communication, body language and its manifestations in different cultures, written and oral communication, bias-free communication, political correctness. iv. Styles of Communication: formal, informal and semi formal Note: The topics listed above should be introduced briefly in the theory classes. The reflections of the students' understanding may be assessed by the facilitator through exercises. The teacher/facilitator can refer to the books recommended under 'prescribed readings' for teaching and exercise purposes. He/she can refer to valid and recognised web-resources and additional titles from renowned publishing houses for the same purpose.

Texts

- ✓ Communicative English OSHEC Publication. Chapters: Unit-I
- ✓ Literature and Art of Communication by Asima Ranjan Parhi, Madhusmita Pati, Subhra Prakash Das and Shakina Mohol, Cambridge University Press, 2019.
- ✓ The International Encyclopedia of Communication. Malden, MA: Blackwell Publishing. (ebook) 4

Suggested Readings

- ✓ A Cognitive Approach to Language Learning. Oxford University Press Donsbach, Wolfgang. (2008).
- ✓ 'Prospect of Electronic Media as Curriculum in Non-Native Contexts', by Parhi and Dutta in I-Manager's Journal on English Language Teaching, 4(2)2014. https://files.eric.ed.gov. pdf
- ✓ 21st CenturyCommunication: A Reference Handbook. Thousand Oaks, Calif: SAGE Reference. (e-book)
- ✓ Written and Spoken Communication in English published by Orient Blackswan
- ✓ Indian English through Newspapers, A R Parhi, Concept, New Delhi, 2008.
- ✓ An Introduction to Professional English and Soft Skills by Das et al
- ✓ *Communicative Competence.* T T Panigrahi, Notion Press, India, Singapore and Malaysia
- ✓ Soft Skills for Your Career, by Kalyani Samantaray. OUP
- ✓ An Anthology of English Prose 1400–1900 Cambridge University Press 2015.

Unit-II

English Language and Communication: Listening and Speaking (9 hours)

I. Types of listening (active and passive), listening to respond (how, when and why), empathic listening and interactive listening ii. Speaking to communicate effectively: fluency, accuracy. intelligibility and clarity iii. Style of speaking in various situations:formal, informal and semi-formal, tentative and cautionary, simple and plain English iv. English pronunciation: vowel and consonant sounds, diphthong, IPA, syllable division and primary stress in words, stress shift, sentence rhythm and weak forms, contrastive stress in sentences, intonation: falling and rising tones, varieties of spoken Englishes: Standard Indian, American and British (R.P.); 'Neutral English' , newspapers, ad captions and their contribution to the shaping of Indian English as a standard language

Note: This unit does not go deep into phonetics. The objective is to train students to refer to a Learners' Dictionary to find out the correct pronunciation of words. Students will be introduced to phonemic transcription using IPA symbols in theory classes and further practice will be provided during exercises/practices.

The teacher/facilitator will include simple questions on phonemic transcription and the marking of stress in words and sentences. The teacher/facilitator can refer to the books recommended under both 'Texts' and 'Suggested Readings' for teaching and exercise purposes. He/she can refer to valid and recognised webresources and additional titles from renowned publishing houses for the same purpose.

Texts

- ✓ Communicative English OSHEC publication. Chapter-Unit I
- ✓ The Sound of English by www.pronunciationstudio.com
- ✓ 'Towards the Anti-Canon: A Brief Focus on Newspaper English in India', SHSS (Studies in Humanities and Social Sciences, UGC Care), Ed. T.R. Sharma, IIAS (Indian Institute of Advanced Study), Shimla, Vol. XIII, No.1, Summer 2006, pp.143-155. http://14.139.58.200, iias.ac.in.journals Asima Ranjan Parhi.

Suggested Readings

- ✓ The Sounds of English Around the World: An Introduction to Phonetics and Phonology Cambridge University Press
- ✓ "Listening in the Language Classroom", pp. 58 - 76 DOI: https://doi.org/10.1017/CBO9780511575945.006, Cambridge University Press, Print publication year: 2009
- ✓ An Introduction to Professional English and Soft Skills by Das et al.
- ✓ Teaching the Spoken Language. Cambridge University Press Speaking. Oxford University Press
- ✓ *Communicative Competence.*Notion Press, India, Singapore and Malaysia
- ✓ Exploring Spoken English. Cambridge University Press English Conversation. Oxford University Press
- ✓ **The English Language in India: From Racial-Colonial to Democratic", *EJBS (The European Journal of Behavioural Sciences)* 3 (1): page:8-16, Dec. 2020. DOI-10.33422/ejbs.v3i1.302**

Unit-III

English Language and Communication: Reading and Writing (9 hours)

I. Reading methods and techniques: fluency, accessing meaning, levels of competence, skimming and scanning, global and local reading, silent reading and reading aloud ii. Reading texts to understand literal, metaphorical and suggested meanings (essays, poems and stories), identifying the tone (admiring, accusatory, ironical, sympathetic, ambiguous and neutral etc.) of the writer iii. Writing process: brainstorming, pre-writing, writing and post writing, coherence, cohesion, style, iv. Writing short texts: paragraph writing; writing longer texts: literary writing, academic writing and media writing

Note: This unit will focus on the basic principles of reading and writing as forms of communication. The teacher/facilitator may use reading material from literary texts, media writings, non-fiction prose and other written discourses. He/she needs to adopt caution in selecting the reading materials. Reading and writing are related activities. The insights gained through training in reading can be utilised for effective writing. The teacher/facilitator must refer to the chapters and topics from the books recommended under 'Prescribed Texts' for teaching and exercise purposes. From which questions will be set for the examination. He/she can refer to valid and recognised web-resources and additional titles from renowned publishing houses for the same purpose.

Prescribed Pieces/Texts

- ✓ *Communicative English* OSHEC Publication. Chapters:Unit-III
- ✓ From *The Winged Word*, David Greene, Macmillan.1974 and *Melodious Songs and Memorable Tales,* 2015:
- ✓ 'Daffodils' by William Wordsworth, 'When we two Parted' by Lord Byron, 'The Last Ride Together' by Robert Browning, "Self Portrait" by A K Ramanujan.
- ✓ From *The Widening Arc*. Kitab Bhavan, 2016, A R Parhi, S Deepika, P Jani :
- ✓ 'No Learning without Feeling' by Claire Needell Hollander and 'The Empty Page' by Steven Harvey, 'George V High School' by Dinanath Pathy

Suggested Readings

- ✓ The Oxford Essential Guide to Writing Oxford University Press 2000.
- ✓ An Introduction to Professional English and Soft Skills Das et al
- ✓ The Classic Guide to Better Writing: Step-by-Step Techniques and Exercises to Write Simply, Clearly and Correctly Oxford University Press, 1996
- ✓ Ways of Reading: Advanced Reading Skills for Students of Literature Routledge. 2007.
- ✓ 'Semantic Excess or New Canons? Exploring the Print Media', Journal of Media and Communication, 2010. Research Gate https://www.researchgate.net.237. A R Parhi
- ✓ An Anthology of English Prose 1400–1900Cambridge University Press 2015

Unit-IV

I. English Language and Communication: Grammar and Vocabulary (9hours) i. Grammar for meaning, multiplicity of meaning, grammar in communication ii. Stative and dynamic verbs, modals and auxiliaries, tense and time reference, aspect,voice, modality, negation, interrogation; reported questions and tag questions, complex noun phrases, concord phrasal verbs. iii. Sentence structure: simple, compound and complex, clauses, types of sentences:statement, questions, exclamations,commands iv. Functions of language,usage-oriented vocabulary, neutral vocabulary Note: The teaching of grammar and vocabulary in this unit need to be connected to communication teaching. Teachers/Instructors may select other areas of grammar for review depending on the needs. They will identify the grammatical errors commonly made by their students in speech as well as writing.

The remediation of these errors may require some explanations of grammar. Instructors should use many grammar and vocabulary related exercises and through them will provide all the grammatical information needed to explain the errors that are identified. The teacher/facilitator can refer to the books recommended under 'suggested readings' for teaching and exercise purposes. He/she can refer to valid and recognised web-resources and additional titles from renowned publishing houses for the same purpose.

Texts

- ✓ Communicative English OSHEC publication. Chapters: Unit-III Communicative Grammar of English by Geoffrey Leech. Routledge publications, 2002
- ✓ Oxford Practical English Usage (International Edition 2016) by Michael Swan **Suggested Readings**
- ✓ The Widening Arc, Kitab Bhavan, Asima R Parhi, S Deepika, P Jani, 2016.
- ✓ Writing Skills Remapping: An Anthology for Degree Classes Orient Blackswan
- ✓ An Anthology of English Prose 1400–1900 Cambridge University Press 2015 **Scheme of Evaluation**
- ✓ Midterm test: 20 marks

5x1=5 (short answer, short notes, comprehension questions)
5x1=5 (Analytical, perspective-based and critical-analysis questions)
5x2=10 (activity/practice/reports/case studies/response papers/assignments etc.)

The teacher will have the flexibility of conducting internal examinations or assess the students' learning outcomes through activities, short projects, case studies etc. from all 20 marks/ in parts

---

Final Examination: 80 marks

Unit1: 1 long answer question+ 1 short note/analysis (15+05) =20 marks

Unit 2: 1 long answer question+ 1 short note/analysis (15+05) =20 marks

Unit 3: 1 long answer question+ 1 short note/analysis (15+05) =20 marks

Unit 4: 1 long answer question+ 1 short note/analysis (15+05) =20 marks

Analytical Thinking and Logical Reasoning

Course Objectives

- To cover various forms of reasoning including deductive, inductive, and abductive, and integrate these with critical thinking skills.
- To explore logical sequences, coding-decoding, and arrangements as key elements of logical reasoning.
- To delve into complex logical reasoning constructs such as alphanumeric series, reasoning analogies, and calendars.
- To engage with arguments involving two or more premises and utilize connectives effectively.

Learning Outcomes

- To be acquainted with using facts, evidence, rules, and principles to draw valid conclusions and make sound judgments
- Able to practice pattern recognition, spatial reasoning, and decision-making as fundamental components of analytical reasoning
- Able to apply logical reasoning to practical scenarios involving cause and effect, dices, directions, and visual reasoning
- Able to master logical constructs such as statements and assumptions, conclusions, and syllogisms

Unit-I: Analytical Reasoning

Deductive Reasoning, Inductive Reasoning, Abductive Reasoning, Critical Thinking, Pattern Recognition- Data, Sequences, Structures, Logical Reasoning, Spatial Reasoning, Causal Reasoning, Decision Making.

Unit-II: Basic Logical Reasoning Concepts

Logical Sequence Series- patterns and sequences in reasoning. Coding- Coding decoding. Arrangements-Seating arrangements and data arrangement. Blood Relations-problems related to blood relations. Input and Output Patterns. Binary Logic Problems

Unit-III: Logical Reasoning

Alphanumeric series, Reasoning Analogies, Calendars, Cause and Effect, Clocks, Cubes and cuboids, Data Sufficiency, Decision Making, Deductive Reasoning/Statement Analysis, Dices, Directions, Mirror and Water Images,

Unit-IV: Logical Statements

Two premise argument. More than two premise argument using connectives. Statement and Assumptions. Statement and Conclusions. Syllogism.