



R. C. Patel Educational Trust's
R. C. Patel Arts, Commerce and Science College
Shirpur-425405, Karvand Naka, Dist.- Dhule (Maharashtra)
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Affiliated to: K. B. C. North Maharashtra University, Jalgaon-425001

Self Study Report (SSR): 2024 (4th Cycle)



Criteria - 1
Curricular Aspects

Key Indicator - 1.3
Curriculum Enrichment

Metric No. - 1.3.1 (QIM)

Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability in transacting the Curriculum

Submitted to
National Assessment and Accreditation Council, Bangalore



R. C. Patel Educational Trust's

R. C. Patel Arts, Commerce and Science College

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President

Hon. Bhupeshbhai Patel

Principal

Dr. D. R. Patil

Date: 15/06/2024

Declaration

This is to declare that, the information, reports, true copies of the supporting documents, numerical data etc. submitted in these files is verified by Internal Quality Assurance Cell (IQAC) and it is correct as per the office record.

This declaration is for the purpose of NAAC accreditation of the HEI for the 4th cycle assessment period 2018-19 to 2022-23.

Place: Shirpur

Date: 15/06/2024

Dr. Sandip P. Patil

IQAC Co-ordinator

IQAC Coordinator

R. C. Patel Educational Trust's

R. C. Patel Arts, Commerce and Science College

Shirpur, Dist.-Dhule (M.S.) 425405



Dr. D. R. Patil

IQAC Chairman & Principal

PRINCIPAL

R. C. Patel Educational Trust's


R. C. Patel Arts, Commerce and Science College

Shirpur, Dist.-Dhule (M.S.) 425405

1.3.1 Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability in transacting the Curriculum

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Dr. D. R. Patil
(Principal)



FYBA Compulsory English

CENG-101 & 201

Syllabus (W.e.f. 2022-23)

Course Credits: 3 per Semester Examination Marks: External (60) + Internal (40)

Lectures Required: 45 hrs.

Course Objectives:

- To introduce students with prose and poetic forms in English literature
- To enable students learn and appreciate literature and its genres like prose, short story, and poetry.
- To provide students opportunity to learn English language Communication skills in and outside classroom situation
- To help the students practice English grammar and make correct use in everyday English communication

Semester-I

Unit: 1 Prose

- a. The Mark of Vishnu- Khushwant Singh
- b. A Cup of Tea- Katherine Mansfield
- c. India's Message to the World- Swami Vivekanand

Unit: 2 Poetry

- a. Where the Mind is Without Fear- Rabindranath Tagore
- b. A Quality of Mercy- William Shakespeare
- c. The Bangle Sellers- Sarojini Naidu
- d. The Lake Isle of Innisfree- W.B. Yeats

Unit: 3 Communication Skills

- a. Comprehension
- b. Introduce Yourself
- c. Information Transfer- Verbal to Non-verbal

Unit: 4 Grammars

- a. Parts of Speech:
 - i) Noun
 - ii) Pronoun
 - iii) Verb
 - iv) Adverb
- d. Articles

Semester-II

Unit: 1 Prose

- a. The Lumber Room- Saki
- b. The Lottery Ticket – Anton Chekov
- c. A Lesson My Father Taught Me- Dr. A P J Abdul Kalam

Unit: 2 Poetry

- a. Stopping by Woods on a Snowy Evening- Robert Frost
- b. Poet, Lover and Bird Watcher- Nissim Ezekiel
- c. The Solitary Reaper- William Wordsworth
- d. Sea-Fever- John Masefield

Unit: 3 Communication Skills

- a. Greeting and Leave Taking
- b. Application Letter
- c. Information Transfer- (Non-verbal to Verbal)

Unit: 4 Grammars

a. Parts of Speech

i) Adjective

ii) Preposition

iii) Conjunction

iv) Interjection

b. Subject-Verb Agreement

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon
Faculty of Commerce and Management
B.Com. (W.E.F.: June – 2022) 206 a- Elective –Modern Office Management
SEMESTER – II

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks + External Theory
Exam: 60 Marks)

Objectives –

1. To understand the concept of office management.
2. To acquire operational skills of office management.
3. To develop the interest in methods and procedures of office management.
4. To know the secretarial procedure.
5. To understand office layout and environment in modern context.
6. To acquire the basic knowledge of office appliances and machines.
7. To understand office system.
8. To acquire knowledge of office meetings and proceedings.

Unit 1- Office Organization, Lectures:	10
1.1, Office Manager: Role, Function, Duties and Responsibilities, Position and Status of Office Manager	
1.2, Office Employees: Types, Qualities, Recruitment, Training	
1.3, Office Enquiries – Procedure – Reparation of Confidential Report	
1.4, Public Relation Function in office	
Unit 2- Office Services, Lectures:	10
2.1, Meaning, Types & Advantages	
2.2, Office Services	
2.3, Office Forms – Objectives, Advantages, Types of Forms, Control and Standardization of Form	
2.4, Modern Mail Services: Mailing Department, Courier Service, Speed Post, Fax, Tag, Email: Need, Importance, Difficulties.	
Unit 3- Office Stationery and Supplies Lectures:	10
3.1, Need & Importance of Stationery	
3.2, Essentials of good System of Regulating Stationery Purchases	
3.3, Standardization – Issue of Stationery	
3.4, Regulating Stationery Consumption	
Unit 4- Office Automation Lectures:	10
4.1, Need, Importance, Scope of Office Automation	
4.2, Different Types of Office Appliances and machines used in office	
4.3, Computerization of Office activities: LAN, WAN, Video Conferencing	
4.4, Maintenance of Records: Pay Roll, Accounting Inventory Statement, Preparation of Financial Report, Leave accounting & Attendance	
Unit 5- Green Office Management Lectures:	10
5.1, Concept, Meaning and Objectives	
5.2, Features of Green Office Management	
5.3, Practices of Green Office Management	
5.4, Implementation of Green Office	
Unit 6- Office Meeting Lectures:	10
6.1, Meaning, Definition, Importance	
6.2, Purposes and Types of Meetings	
6.3, Meeting, Essentials of Valid meeting & drafting notices, Agenda & Minutes	

6.4, Factors of Successful meeting, Online Meeting

References –

1. Office Organization and Management-Arora. S.P. Vikas Publishing House Pvt. Ltd. New Delhi.
2. A Text Book of Office Management- Willian & Robinson
3. Office Management & Control- G. R. Terry
4. Office Automation- G.R. Terry
5. Office Methods- M.L. Basu
6. Office Organization and Management- N.Kumar & R.Mittal, Anmol Publication Pvt.Ltd. New
7. Delhi
8. Fundamental of Office Management- J.P.Mahajan, Pitamber Publishing Co. New Delhi.
9. Office Management-Dr. A H Lokhandwala & V.K.Behere, Nirali Prakashan, Pune
10. Principles of Office Management-R.C.Bhatia, Lotus Press, New Delhi.

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon
Faculty of Commerce and Management

B.Com. I (W.E.F.: June – 2022)

Paper: 105 – Computing Skills

SEMESTER – I

Total Lecturers: 60

Total Marks: 100 (Internal Continuous Assessment: 40 Marks, External Theory Exam: 40
Marks, External

Practical Exam: 20 Marks)

Objectives –

1. To develop essential computing skills
2. To train in using Microsoft Office Software
3. To prepare in using key Google Services skills
4. Instructions as to study and examinations
5. Preparation of Practical file as per list of practical and topics from syllabus is essential
6. Course Outcomes
7. Students will be able to use essential computing skills
8. Students will use Microsoft Office tools – Word, Excel and Power Point
9. Students will be ready to use key Google Services skills

Unit 1: Essential Computing Skills – I Lectures: 10

1.1 Basic Photo Editing Skills – Editing Using Microsoft Office Picture Manager and Paint

1.2 Fast and Accurate Typing Skill enhancement using – Rapid Typing

1.3 Speak and Type on Mobile using Google Voice Typing

1.4 Online Typing in regional language – Marathi & Hindi

1.5 Grammar checking of document using free grammar checking tools

1.6 Plagiarism checking of document using free plagiarism checking tools

Unit 2: Essential Computing Skills – II Lectures: 10

2.1 Working with Video Conferencing Tools – Zoom/Google Meet etc.

2.2 Using ZIP files –ZIP and UNZIP operations

2.3 Basic Computer Hardware usage and troubleshooting Skills with respect to printer, monitor, keyboard, mouse and web camera. Using Pen drive.

2.4 Downloading and installing software: 1. Download and install tally prime software from tally solutions Website 2. Install Printer Drivers

2.5 Using e-Commerce and M-Commerce Websites / Mobile Applications

2.6 Using UPI for online payments

Unit 3: Microsoft Office Skills – I Lectures: 10

3.1 MS – Word

- Creating word documents with formatting features
- Using Tables in word document
- Using Lists in word document
- Using Mail Merge to create Certificate
- Converting Word file to pdf and pdf file to word.

3.2 -MS – Power Point

- Creating Power Point Presentation with designing features
- Adding Audio Visual effects to presentation
- Creating Video File using Power Point

Unit 4: Microsoft Office Skills – II

Lectures: 10

4.1 Creating Excel files for various business applications
 4.2 Arranging Rows and Columns, adding design effects
 4.3 How to use functions such as - Logical, Mathematical, statistical and Financial Functions

4.4 Creating Charts and Graphs

4.5 Pivot Table

4.6 Adding objects in Excel File

Unit 5: Google Services Skills – I

Lectures: 10

5.1 Using Google Search effectively

5.2 Google Maps

5.3 Google Drive

5.4 Google Calendar

5.5 Google Translate

5.6 Google Photos

Unit 6: Google Services Skills – II

Lectures: 10

6.1 Google Docs

6.2 Google Sheets

6.3 Google Slides

6.4 Google Forms

6.5 Google Contacts

6.6 Google Finance

Suggested List of Practical Assignments

1 Create your Resume using MS- Word

2 Prepare Salary Sheet using MS- Excel

3 Create presentations on your city using MS- Power Point

4 Create Job Application using Google Docs

5 Create Mark Statement using Google Sheets

6 Create presentations on your college using Google Slides

7 Save your files on Google Drive

8 Translate MS- Word file from English to Hindi

9 Use online grammar checker and plagiarism check for your document file

10 Use video conferencing tool for your meeting

11 Order books on e-commerce website or mobile application

12 Demonstrate use of online money transfer using UPI mobile application

13 Zip all your assignment files and email them to your teacher

References –

1. Microsoft Office Step by Step (Office 2021 and Microsoft 365) August 2022 Edition, Microsoft Press
2. Google Docs Made Easy: Online Collaboration For Everyone, James Bernstein, 2021
3. Google Drive and Docs in 30 The unofficial guide to Google Drive, Docs, Sheets & Slides, Ian Lamont, 2018

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon
Under Faculty of Science and Technology
S.Y.B.A. SEMESTER- III
New Syllabus (CBCS Pattern)
(With effect from: June 2019)

Gg. 232 (DSE 1 A): GEOGRAPHY OF TOURISM

Total Credits – 3. Internal Marks - 40

Total Clock Hours – 45 External Marks – 60

Objectives

1. To develop and communicate basic conceptual frame work of Geo Tourism.
2. To realize its potentials and against achieved in the Indian context.
3. To understand the various Geo tourism.
4. To know the role and responsibilities, economic growth of Tourism industry in India.
5. To evaluate the role of various organization of tourism.
6. To know the importance of the sustainable tourism.
7. To develop Socio cultural aspects for the Tourism geography.

1. Introduction to Tourism Geography

(A) Introduction to Tourism Geography

- i) Concept of Tourism,
- ii) Definition of tourism,
- iii) Nature and scope of tourism geography,
- iv) Role of geography in tourism,
- v) Components and characteristics of tourism geography.

(B) Factors affecting on Tourism.

1) Physical –

- i) Relief, Beaches, Waterfall, Mountain & Hot – spring
- ii) Climate – Hill station, Health resort
- iii) Vegetation – National park, Sanctuaries

2) Cultural –

- i) Religious and pilgrim centers
- ii) Historical monuments
- iii) Archaeological sites.

3) Economic –

- i) Accommodation
- ii) Transportation

Recent Trends and Types of Tourism

A) Regional Tourism;

- i) Domestic- (India)
 - a) Geographical (Hill Station) - Darjeeling
 - b) Historical- Ajanta
 - c) Educational- Kolkata & Pune
 - d) Beaches- Goa
- ii) Eco-tourism – Sanctuaries, Forts Capital & historical places and national park (M.P., Gujarat & Maharashtra)
- iii) Sustainable Tourism - Agro tourism, heritage tourism & Adventure tourism

B) Role of MICE (Meetings, Incentives, Conventions and Exhibitions) in Tourism

C) Types of Tourism: Cultural Tourism, Medical Tourism, Pilgrimage & Eco tourism
Impact of Tourism

A) Economy –

- i) Employment ii) Increased trade iii) Inflation
of land values IV) Increased revenue v) Effect of foreign exchange

B) Society –

- i) Regional language ii) Cultural change
iii) Crime & gambling iv) Establish new colonies

C) Environment –

- i) Land ii) water iii) Noise iv) Air

4 Tourism in India

A) National tourism policy in India

B) Infrastructure & support system for tourism

C) Tourism development in Konkan region

D) Tourism development in Khandesh region: case study of Patna Devi, Toranmal and Pal

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon
Under faculty of Science and Technology
S.Y.B.A. SEMESTER- IV
New Syllabus (CBCS Pattern)
(With effect from: June 2019)

Gg. 242 (DSE 1 B): GEOGRAPHY OF INDIA

Total Credits – 3. Internal Marks - 40

Total Clock Hours – 45 External Marks – 60

Objectives:

- i. To make the students able to understand Geographical Personality of India.
- ii. To study minerals and power resources in the specific regions of India.
- iii. To study the nature of industries and their development in India.
- iv. To aware the students about agricultural and demographic problems and make them able to find remedial measures on those problems

1. Geographical personality of India

A) Introduction:

- i) Location, extent and Geographical area
- ii) Administrative divisions of India
- iii) Adjoining countries

B) Physiography:

- i) Physiographic divisions of India
 - (a) The Northern Mountainous Region Himalaya
 - (b) The Northern Indian Plain
 - (c) The Peninsular plateau
 - (d) Coastal Plains
 - (e) Indian Islands
- C) Drainage:
 - i) Drainage system
 - (a) Himalayan Drainage system
 - (b) Peninsular Drainage system

2 Climate, Soils and Natural Vegetation

A) Climate

- i) Characteristics of climate
- ii) Factors affecting on climate
- iii) Seasons and rainfall distribution

B) Soils:

- i) Major soil types in India
- ii) Soil Erosion and conservation in India

C) Vegetation:

- i) Major Types and Distribution of natural Vegetation
- ii) Economic importance of forest

3 Populations and Agriculture

A) Population:

- i) Growth of population in India Since 1901
- ii) Factors affecting the distribution of population in India (Physical and Cultural)
- iii) State – wise Density distribution of Population in India.
- iv) Sex Ratio - its regional variation and associate problems of low Sex Ratio.

B) Agriculture:

- i) Study of geographical condition,

Production and distribution of following crops:

- a) Rice b) Cotton
- ii) Agro-climatic Regions of India

4 Resources and Industries

A) Mineral and Power Resources:

Production and distribution of following resources:

- i) Iron ore ii) Bauxite iii) Coal
- iv) Hydel Power

B) Industries:

i) Distribution and Production of following Industries.

- a) Cotton Textile industries
- b) Sugar Industries
- ii) Major Industrial Belts in India.
- iii) Industrial Policy of India

**Kavayitri Bahinabai Chaudhari
North Maharashtra University, Jalgaon
(NACC Re-accredited 'A' Grade University)
FACULTY OF COMMERCE AND MANAGEMENT
S.Y. B.Com – W.e.f. AY 2019-20
SEMESTER III**

Paper: 301 Business Skill

60+40 Pattern: External Marks 60, Internal Marks 40. Maximum Total Marks: 100

Required Lectures: 60

Objectives:

1. To equip students with the necessary soft skills to enhance their competitive edge in the job Market
2. To imbibe in students positive attitude towards life and work
3. To help students excel in their individual and professional lives using the soft skills

Course Outcomes

Student shall be able to –

- Understand the significance and essence of a wide range of soft skills
- Learn how to apply soft skills in a wide range of routine social and professional settings.
- Learn how to employ soft skills to improve interpersonal relationships.
- Learn how to employ soft skills to enhance employability and ensure workplace and career Success.

UNIT .1 Soft Skills	[L-10]
<ol style="list-style-type: none"> 1.1. Introduction – Meaning & Definition of Soft skills, Importance of Soft Skills, Types of Soft Skills, Soft skill development Process, Soft Skills Vs Hard Skills 1.2. Understanding yourself: Self-assessment through SWOT Analysis 1.3. Developing Positive Thinking and Attitude, Driving out Negativity; Self Confidence 	
UNIT .2 Etiquette and Manners	[L-10]
<ol style="list-style-type: none"> 2.1. Meaning and Definition 2.2. Business etiquettes 2.3. Body Language 2.4. Relationship with the others 2.5. Basics of the table manner 2.6. Telephone/Mobile etiquettes; tone and pitch of the voice 	
UNIT .3 Time Management	[L-10]
<ol style="list-style-type: none"> 3.1 Concept & Importance 3.2 Need of time management 3.3 Time Management Strategies and Tools 3.4 Activities Log, To-do lists, Action Programs, Multitasking 3.5 Planning in Advance: Prioritizing and Scheduling 	
UNIT .4 Basics of Communication	[L-10]
<ol style="list-style-type: none"> 4.1 Meaning & Objectives of communication, 4.2 Process of communication, Importance of communication, Grapevines 4.3 Steps of Effective Communication 4.4 Methods of Communication 4.5 Verbal & Nonverbal Oral & Written 	
UNIT .5 Learning & Listening Skills	[L-10]

5.1 Listening Skills

5.1.1 Concept, Listening Vs Hearing

5.1.2 Advantages & Barriers of listening

5.1.3 Process of Listening,

5.1.4 Types of Listening

5.1.5 Techniques for effective listening

5.2 Learning Skills

5.2.1 Concept of learning

5.2.2 Memorizing Techniques

5.2.3 Mind mapping: Taking notes effectively

5.2.4 Using ICT for efficient learning

UNIT 6 Reading Skills

[L-10]

6.1 Introduction, Need for developing efficient reading skills,

6.2 benefits of effective reading, speed of reading,

6.3 basic steps to effective reading, overcoming common obstacles,

6.4 Types, Methods of reading

6.5 Approaches, Tips for effective reading

Reference Books:

1. Communication Skills 2nd Edition – Sanjay Kumar, Pushpalata – Oxford University press

2. Personality Development and Soft Skills - Mitra, Barun K. (Oxford University Press, 2011)

3. Effective Communication and Soft Skills - Bhatnagar, Nitin and Mamta Bhatnagar (Pearson India, 2011)

4. Soft Skills Training: A Workbook to Develop Skills for Employment -Wentz, Frederick H. (Create Space Independent Publishing Platform, 2012)

5. An Introduction to Professional English and Soft Skills - Das, Bikram K. (Cambridge University Press, 2009)

6. Soft Skills: Know Yourself & Know the World - Alex, K. (S Chand & Company, 2012)

7. Managing Soft Skills for Personality Development – by B.N. Ghosh, McGraw Hill India, 2012.

8. English and Soft Skills – S.P. Dhanavel, Orient Blackswan India, 2010.

9. Soft Skills Training – A workbook to develop skills for employment by Fredrick H. Wentz.

10. Personality Development and Soft Skills – Oxford University Press by Barun K. Mitra.

SYBA

DSE 1 A and B (Equivalent to S-I)

Title: 16th and 17th Century English Literature

External- 60 marks

Internal- 40 marks

Credit Points- 03 (45 clock hours)

OBJECTIVES:

1. To acquaint the students with the major literary trends and tendencies and prominent writers of the 16th and 17th Century English Literature.
2. To make the students aware about the literary history, salient features and socio-cultural background of the period.
3. To help the students to grasp the content and critically appreciate the prescribed texts.
4. To inculcate amongst students a liking for the Elizabethan and Post-Shakespearean literature.

Semester – III- DSE 1 A- 16th Century Literature

Prescribed Units

(i) Growth and development of Drama and Poetry in the 16th century.

(ii) Poetry:

A) John Donne: a) Good Morrow, b) The Dream

B) Edmund Spenser: a) Ice and Fire, b) Mutability

C) Philip Sidney: a) Sleep, b) Reason

(iii) Drama:

The Merchant of Venice by William Shakespeare

Semester - IV – DSE 1 B- 17th Century Literature-Credits- 03 (45 clock hours)

Prescribed Units

- (i) Growth and development of Novel and Essay in the 17th century.

Semester - IV – DSE 1 B- 17th Century

Literature-Credits- 03 (45 Clock Hrs.)

Prescribed Units

- (ii) **Growth and development of Novel and Essay in the 17th century.**

(iii) Essays:

A) **Francis Bacon:** a) Of Studies,

b) Of Anger,

c) Of Unity In Religion

B) **Jonathan Swift:** a) A Treatise on Good Manners and Good Breeding

b) Hints Towards an Essay on Conversation

c) Of the Education of Ladies

(iv) Novel:

Pilgrim's Progress by John Bunyan

Recommended Reading:

1. B. K. Mullik: (1964) *English Poetry (Its Background and Development)*: S.Chand & Co.

2. H. M. Williams & George Allen, (1972): *Six Ages of English Poetry*

3. Helen Gardner: (1973) *The Metaphysical Poets*: Penguin Books Ltd.

4. David Greene: *The Winged World: An Anthology of Poems for Degree Course*:The Macmillan Co. of India Ltd.

SYBA
DSE 2A and B (equivalent to Special Paper-II)
Title: 18th and 19th Century English Literature

External – 60 marks

Internal – 40 marks

Credit Points- 03 (45 clock hours)

(I) OBJECTIVES:

1. To impart basic ideas about the 18th and 19th Century English Literature with special reference to Poetry and Novel.
2. To make the students aware about the literary history, salient features, socio-political and cultural background of the Romantic and Victorian age.
3. To help the students to grasp the content and critically appreciate the prescribed Texts.
4. To inculcate amongst students a liking for the Romantic and Victorian literature.

Semester – III DSE 2 A- 18th Century Literature

Prescribed Units

- i) **Background study of poetry and novel in the 18th Century Literature.**
- ii) **William Wordsworth:** Lines Composed a Few Miles above Tintern Abbey
- iii) **S. T. Coleridge:** Rhyme to an Ancient Mariner
- iv) **John Keats:** Ode on a Grecian Urn.
- v) **P B Shelley:** One Word is too often Profaned
- vi) **Lord Byron:** She Walks in Beauty.
- (vii) **Jane Austen:** *Sense and Sensibility.* (Novel)

Semester – IV DSE 2 B- (19th Century Literature)- Credits- 03 (45 clockhours)

Prescribed Units

- (i) **Background study of Poetry and Novel of the 19th Century literature.**
- (ii) **Alfred Lord Tennyson:** The Lotus Eaters
- (iii) **Robert Browning:** Rabbi Ben Ezra
- (iv) **Matthew Arnold:** Dover Beach
- (v) **D G Rossetti:** The Blessed Damozel
- (vi) **G M Hopkins:** Pied Beauty
- (vii) **Thomas Hardy:** *Tess of the d'Urbervilles.*(Novel)

Recommended Reading:

1. H. M. Williams & George Allen, (1972): *Six Ages of English Poetry*
2. David Greene: *The Winged World: An Anthology of Poems for Degree Course*. The Macmillan Co. of India Ltd.
3. Mayhead Robin: (1965) *Understanding Literature*. Cambridge Univ. Press.
4. W.R. Goodman: (2006) *History of English Literature*. Doaba House Delhi
5. Victorian Poetry: (1988) *A Selection, Macmillan's Annotated Classics-* V S Seturaman
6. E Albert: (1997) *History of English Literature*. Oxford Univ. Press.
7. *Fifteen Poets*: (1994) Oxford University Press, Delhi.
- 8 Jane Austen: (2008) *Sense and Sensibility*, Oxford Uni. Press, 2008.
9. Thomas Hardy:() *Tess of the d'Urbervilles*. Orient Blackswan, 2014.

APER – IV
SKILL ENHANCEMENT COURSE (SEC)
BOT.404: NURSERY AND GARDENING

Lectures: 30

AIMS AND OBJECTIVES

1. To know the concept of nursery and Gardening.
2. To improve the skills for growing fresh and safe vegetables.
3. To create awareness about home gardening.
4. To develop different skills regarding the gardening operations among the students

Unit 1. Nursery 04 L

Definition, objectives and scope, building up of infrastructure for nursery, Planning and seasonal activities. Planting: direct seedling and transplant.

Unit 2. Seed structures and types 04 L

Seed dormancy, causes and methods of breaking dormancy, Seed storage: Seed banks, factors affecting seed viability and genetic erosions.

Unit 3. Vegetative propagation 05 L

Cutting and Air-layering: selection, techniques of cutting, rooting medium, Planting and hardening of plants in green house or glass house. Harvesting, Packing, Storage and Marketing of Nursery stock.

Unit 4. Gardening 07 L

Definition, objectives and scope,. Different types of gardening: Landscape, home Gardening and park, and its Components, suitable plants, soil, maturing and watering.

Unit 5. Indoor Gardening 04 L

Definition, characters of indoor plants, containers, selection of indoor plants, Potting media, watering tips.

Botanical name, cultivation practices, Ornamental value, maintenance and care of Cycads and Pothas (Two examples each)

Unit 6: Cultivation practices 06 L

Introduction, study of cultivation of some vegetables: Brinjal and Tomato w.r.t.

- i) Sowing ii) Transplanting of seedling
- iii) Varieties iv) Manuring and irrigation
- v) Pest, Diseases and control measures vi) Harvesting
- vii) Storage and Marketing

REFERENCES:-

1. Bose T.K. and Mukherjee. D. (1972). Gardening in India, Oxford and IBH Publishing Vo., New Delhi.
2. Sandhu, M. K., (1989), Plant Propagation. Wile Eastern Ltd., Bangalore, Madras.
3. Kumar, N., (1997), Introduction to Horticulture, Rajalakshmi Publications, Nagercoil.
4. Edmond Musser and Andres, Fundamentals of Horticulture, McGraw Hill Book Co., New Delhi.
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पर्यायी अभ्यासपत्रिका

कवयित्री बहिणाबाई चौधरी उत्तर महाराष्ट्र विद्यापीठ, जळगाव
मानव्यविज्ञान विद्याशाखा
Choice Based Credit System
तृतीय वर्ष कला – मराठी
सत्र पाचवे व सहावे
(शैक्षणिक वर्ष 2020 - 2021 पासून लागू)

DSC Marathi
उपयोजित मराठी
व्यवसायाभिमुख लेखनासाठी मराठी

सत्र पाचवे
DSC Marathi E : व्यवसायाभिमुख लेखनासाठी मराठी
(श्रेयांक – तीन)

• अभ्यासक्रमाची उद्दिष्टे-

1. व्यावसायिक लेखनासाठी मराठी भाषेचे उपयोजन करण्यास शिकणे.
2. अहवाल लेखनाचे स्वरूप जाणून असे लेखन करणे.
3. संपादन प्रक्रियेची माहिती घेऊन त्या प्रक्रियेचा अनुभव घेणे.
4. प्रकाशन व्यवसायाबाबत जाणून घेऊन त्याच्याशी संबंधित विविध कामांची माहिती घेणे.

• घटक विश्लेषण -

घटक क.	घटक	श्रेयांक	घड्याळी तासिका
1.	अहवाल लेखन	01	15
	1.1 अहवाल लेखन: स्वरूप, घटक व वैशिष्ट्ये		
	1.2 अहवाल लेखकाच्या अंगी आवश्यक गुण		
	1.3 अहवालांचे स्वरूप: वाङ्मयमंडळ, मराठी विभाग कार्यक्रम, शैक्षणिक सहल, राष्ट्रीय सेवा योजना शिबीर, युवती सभा कार्यक्रम		
	1.4 उपयोजन - वर नमूद केलेल्यांपैकी कोणत्याही एका प्रकारच्या अहवालाचे लेखन करा.		
2.	संपादन: स्वरूप व प्रक्रिया	01	15
	2.1 संपादन: प्रयोजन व भूमिका		
	2.2 संपादन: नियोजन, पूर्वतयारी व संपादकाच्या अंगी आवश्यक गुण		

	2.3 संपादनाचे स्वरूप: स्मरणिका व गौरविका, वार्षिक अंक / दिवाळी अंक, नियतकालिक (पाक्षिक, मासिक, द्वैमासिक)		
	2.4 उपयोजन — वर नमूद केलेल्यांपैकी कोणत्याही एका प्रकारातील संपादनाचा आराखडा तयार करा.		
3.	प्रकाशन व्यवसाय: स्वरूप व प्रक्रिया	01	15
	3.1 ग्रंथप्रकाशन: प्रयोजन व भूमिका		
	3.2 प्रकाशन व्यवसाय: नियोजन, पूर्वतयारी व त्यासाठी आवश्यक गुण		
	3.3 अ) ग्रंथप्रकाशनाची प्रक्रिया: मुद्रणप्रत, मुद्रितशोधन, मुखपृष्ठ, मांडणी, सजावट, मुद्रक, कागदनिवड, मुद्रणपध्दती, बांधणी, वितरक, स्वामित्व हक्क, लेखककरार, ग्रंथनोंदी, आवृत्ती, पुनर्मुद्रण आ) ग्रंथवितरण व विक्री: वितरणव्यवस्था, विक्रेताप्रकार, ग्रंथालय, जाहिरात, प्रोमो, समीक्षा, ई-बुक, ऑनलाईन विक्री		
	3.4 उपयोजन — परिसरातील एखाद्या प्रकाशन संस्थेच्या कार्यालयास किंवा पुस्तक वितरण व विक्री करणाऱ्या व्यावसायिकाच्या कार्यालयास भेट द्या व तेथील कामकाजासंबंधी जाणून घ्या.		
	एकूण श्रेयांक व घड्याळी तासिका	03	45

टीप — अंतर्गत परीक्षेसाठी प्रत्येक घटकातील उपयोजनात्मक भागावर भर दिला जाईल. तसेच विद्यापीठ परीक्षेच्या प्रश्नपत्रिकेत प्रत्येक घटकावरील उपयोजनात्मक भागावरीलही प्रश्न समाविष्ट असतील.

सत्र सहावे

DSC Marathi F : व्यवसायाभिमुख लेखनासाठी मराठी (श्रेयांक — तीन)

• अभ्यासक्रमाची उद्दिष्टे-

1. व्यावसायिक लेखनासाठी मराठी भाषेचे उपयोजन करण्यास शिकणे.
2. नाटक व चित्रपट यांच्या परीक्षण लेखनाचे स्वरूप जाणून घेऊन त्याचे उपयोजन करण्यास शिकणे.
3. मुलाखत घेण्यासाठी आवश्यक बाबींची माहिती घेऊन मुलाखत लेखनाची प्रक्रिया आत्मसात करणे.
4. भाषांतराची प्रक्रिया जाणून घेऊन भाषांतराचा सराव करणे.

• घटक विश्लेषण —

घटक क्र.	घटक	श्रेयांक	घड्याळी तासिका
1.	परीक्षण लेखन	01	15
	1.1 परीक्षण लेखन: स्वरूप, घटक व वैशिष्ट्ये		
	1.2 परीक्षण लेखन: पूर्वतयारी व आवश्यक गुण		
	1.3 परीक्षण लेखनाचे स्वरूप: नाट्य परीक्षण लेखन व चित्रपट परीक्षण लेखन		
	1.4 उपयोजन — एखादा चित्रपट वा एखादे नाटक पाहून त्याचे परीक्षण लिहा.		
2.	मुलाखत लेखन	01	15
	2.1 मुलाखत: प्रयोजन व स्वरूप		
	2.2 मुलाखत: पूर्वतयारी, प्रश्नसूची व मुलाखतकाराच्या अंगी आवश्यक कौशल्ये		
	2.3 मुलाखतीचे स्वरूप: माध्यमनिहाय मुलाखती (मुद्रित, श्राव्य, दृक-श्राव्य माध्यमांसाठी मुलाखत)		
	2.4 उपयोजन— कोणत्याही एका माध्यमासाठी प्रशासन, क्रीडा वा साहित्य या क्षेत्रांमध्ये विशेष कामगिरी बजावणाऱ्या एका व्यक्तीची मुलाखत घेऊन ती लिहून काढा.		
3.	भाषांतर लेखन	01	15
	3.1 भाषांतर: स्वरूप व प्रक्रिया		
	3.2 भाषांतर, अनुवाद, भावानुवाद, रूपांतर यांतील साम्य-भेद		
	3.3 भाषांतर: आवश्यक कौशल्ये		
	3.4 उपयोजन — इंग्लिश वा हिंदी उताऱ्याचे मराठीत भाषांतर करणे किंवा अहिराणी व आदिवासी बोलीतील कथा / उतारा यांचे मराठीत भाषांतर करणे.		
	एकूण श्रेयांक व घड्याळी तासिका	03	45

टीप — अंतर्गत परीक्षेसाठी प्रत्येक घटकातील उपयोजनात्मक भागावर भर दिला जाईल. तसेच विद्यापीठ परीक्षेच्या प्रश्नपत्रिकेत प्रत्येक घटकावरील उपयोजनात्मक भागावरीलही प्रश्न समाविष्ट असतील.

• संदर्भग्रंथ-

1. व्यावहारिक मराठी — ल. रा. नशिराबादकर, फडके, कोल्हापूर.
2. व्यावहारिक मराठी — संपा. स्नेहल तावरे, स्नेहवर्धन, पुणे.
3. व्यावहारिक मराठी — प्रकाश परब, मिथुन, मुंबई.

4. मराठी भाषा: उपयोजन आणि सर्जन — संपा. अनिल गवळी
5. रसग्रहण: कला व स्वरूप — गो. म. कुलकर्णी, कॉन्टिनेन्टल, पुणे.
6. रसास्वाद: वाङ्मय आणि कला — माधव आचवल, मुंबई मराठी साहित्य संघ, मुंबई.
7. संपादन: स्वरूप व कार्ये — य. च. म. मु. वि., नाशिक.
8. साहित्य संवाद - वि. शं. चौधुले, प्रतिमा, पुणे.
9. मराठी प्रकाशनव्यवसाय परिचय — शरद गोगटे
10. पॉप्युलर रीतिपुस्तक — रामदास भटकळ, मृदुला जोशी, पॉप्युलर, मुंबई.
11. मराठी ग्रंथप्रकाशनाची 200 वर्षे — शरद गोगटे, राजहंस, पुणे.
12. बखर एका प्रकाशकाची — पं. अ. कुलकर्णी, मेनका, पुणे.
13. मराठी ग्रंथनिर्मितीची वाटचाल — शं. गो. तुळपुळे, महाराष्ट्र ग्रंथोत्तेजक सभा, पुणे.
14. साहित्याची भूमी — श्री. पु. भागवत, ग्रंथाली, मुंबई.
15. मराठी प्रकाशनांचे स्वरूप, प्रेरणा आणि परंपरा — अ. ह. लिमये, प्रसाद, पुणे.
16. मराठी लेखनकोश — यास्मिन शेख
17. भाषांतरमीमांसा — संपा. कल्याण काळे, अंजली सोमण, प्रतिमा, पुणे.
18. भाषांतर — सदा कऱ्हाडे, लोकवाङ्मय गृह, मुंबई.
19. भाषांतर — शास्त्र की कला ? — म. वि. फाटक, रजनी ठकार, वरदा, पुणे.
20. भाषांतर आणि भाषा — विलास सारंग, मौज, मुंबई.
21. अनुवादमीमांसा — संपा. केशव तुपे, साक्षात, औरंगाबाद.
22. भाषांतरविद्या: स्वरूप आणि समस्या - संपा. रमेश वरखेडे, य. च. म. मु. वि., नाशिक.
23. अनुवादविज्ञान — निलेश लोंढे, स्वरूप, पोखणी, परभणी.
24. भाषा आणि भाषांतर - य. च. म. मु. वि., नाशिक.

बी. ए. तृतीय वर्ष कला हिंदी - पंचम सत्र (V Semester)
रूचि आधारित (CBCS) पाठ्यक्रम
कौशल विकास संवर्धन पाठ्यक्रम (SEC - III)
SEC III - HINDI : हिंदी व्याकरण तथा अभिव्यक्ति कौशल

✦ **पाठ्यक्रम का उद्देश्य :-**

- छात्रों को हिंदी भाषा की व्याकरणिक संरचना से अवगत कराना।
- छात्रों को हिंदी शब्द संसाधन से परिचित कराना।
- छात्रों को संक्षेपण करने की प्रक्रिया से अवगत कराना।
- छात्रों को पल्लवन करने की प्रक्रिया से अवगत कराना।
- वक्तृत्व कला-कौशल की जानकारी से छात्रों को परिचित कराना।
- वाद-विवाद कला-कौशल की जानकारी से छात्रों को परिचित कराना।

पाठ्यक्रम का स्वरूप

इकाई I : शब्द भेद तथा शब्द संसाधन :-

अ) शब्द भेद :- विकारी और अविकारी

- 1) **विकारी शब्द** : संज्ञा, सर्वनाम, विशेषण एवं क्रिया आदि का सामान्य परिचय एवं प्रकार (भेद)।
- 2) **अविकारी शब्द (अव्यय)** : क्रियाविशेषण अव्यय, संबंधसूचक अव्यय, समुच्चयबोधक अव्यय एवं विस्मयादिबोधक अव्यय आदि का सामान्य परिचय एवं प्रकार (भेद)।

आ) शब्द-संसाधन :-

- i) पर्यायवाची शब्द ii) विलोम शब्द iii) अनेक शब्दों के लिए एक शब्द

इकाई II : अभिव्यक्ति कौशल : मौखिक तथा लिखित :-

अ) मौखिक अभिव्यक्ति कौशल :-

- i) **वक्तृत्व** : वक्तृत्व शब्द का अर्थ, वक्तृत्व कला एवं शास्त्र, वक्तृत्व के तत्त्व, वक्तृत्व का महत्त्व, वक्तृत्व प्रतियोगिता के नियम, उत्तम वक्ता की विशेषताएँ।
- ii) **वाद-विवाद** : वाद-विवाद से तात्पर्य, वाद-विवाद के रूप (संसदीय वाद-विवाद, मेस वाद-विवाद, सार्वजनिक वाद-विवाद, प्रतियोगितात्मक वाद-विवाद, हास्य वाद-विवाद), वाद-विवाद प्रतियोगिता के सामान्य नियम।

आ) लिखित अभिव्यक्ति कौशल :-

- i) **संक्षेपण (सारलेखन)** :- संक्षेपण का महत्त्व, संक्षेपण की विशेषताएँ, संक्षेपण की प्रक्रिया, संक्षेपण-लेखन।
- ii) **पल्लवन** :- पल्लवन का महत्त्व, पल्लवन की विशेषताएँ, पल्लवन की प्रक्रिया, पल्लवन-लेखन।

पाठ्यक्रम की उपलब्धियाँ :-

- व्याकरण के कारण हिंदी भाषा के मानक रूप को समझा जाएगा।
- हिंदी भाषा की संरचनात्मक ढाँचे की समझ छात्रों में आएगी।
- हिंदी भाषा का शुद्ध-लेखन करने की क्षमता विकसित होगी।
- पत्रकारिता, प्रकाशन विभाग, पटकथा लेखन आदि व्यावसायिक क्षेत्र में रोजगार के अवसर प्राप्त होंगे।
- स्पर्धात्मक परीक्षा में (लिखित और मौखिकी) इसकी उपयोगिता सिद्ध होगी।
- अभिव्यक्ति कौशल की क्षमता विकसित होगी।
- शब्द-संसाधन के माध्यम से भाषा का शब्द-भंडार बढ़ेगा।

संदर्भ ग्रंथ :-

- 1) हिंदी व्याकरण - पं. कामताप्रसाद गुरू, प्रकाशन संस्थान, नयी दिल्ली।
- 2) सुबोध हिंदी व्याकरण एवं रचना - डॉ. वीरेन्द्रकुमार गुप्ता, एस. चाँद अण्ड कंपनी, दिल्ली।

- 3) आधुनिक हिंदी व्याकरण और रचना - डॉ. वासुदेवनंदन प्रसाद, भारती भवन, इलाहाबाद।
- 4) मानक हिंदी व्याकरण - डॉ. लक्ष्मीकांत पाण्डेय, विद्या प्रकाशन, कानपुर
- 5) प्रयोजनमूलक हिंदी भाग 1 - डॉ. उर्मिला पाटील, अतुल प्रकाशन, कानपुर
- 6) प्रयोजनमूलक हिंदी व्याकरण - डॉ. द्विजराम यादव, साहित्य रत्नाकर, कानपुर
- 7) प्रयोजनमूलक मानक हिंदी - ओंकारनाथ वर्मा, सुलभ प्रकाशन, लखनऊ
- 8) शुद्ध हिंदी - डॉ. जगदीशप्रसाद कौशिक, साहित्यागार प्रकाशन, जयपुर
- 9) व्यावहारिक हिंदी - डॉ. ईश्वरदत्त शील, विद्या विहार प्रकाशन, कानपुर
- 10) प्रयोजनमूलक हिंदी - डॉ. पुरूषोत्तम वाजपेयी, चन्द्रलोक प्रकाशन, कानपुर
- 11) प्रायोगिक व्याकरण एवं पत्रलेखन - डॉ. शिवाकान्त गोस्वामी, विद्या प्रकाशन, कानपुर
- 12) वाद-विवाद प्रतियोगिता : पक्ष और विपक्ष - डॉ. गिरिराजशरण अग्रवाल, डॉ. मीना अग्रवाल,
डायमंड बुक्स, दिल्ली

Discipline Specific Elective 3 B (DSE 3 B)

DSE 3 ENG B: Twentieth Century English Literature

SEM-VI

External- 60 marks

Internal- 40 marks

Credits – 03 (45 clock hrs)

Unit 1. Background: i) Literary Trends, Tendencies in twentieth century British Poetry, Drama and Novel.

ii) Contributions of the major poets, dramatists and novelists to British Literature.

Unit2. Poetry Section:

- I) Dylan Thomas - i. *A Fern Hill* ii. *The Hunchback in the Park*.
 II) Wilfred Owen – i. *Dulce et Decorum Est*. ii. *Futility*.
 III) W.H. Auden - i. *The Shield of Achilles* ii. *Now the leaves are Falling Fast*.

Unit 3. Novel: *Lord of the Flies*- William Golding

Recommended Books:

1. Abrams, M. H. *A Glossary of Literary Terms*, 3rd edn. Macmillan Company of India Ltd. 1978.
2. Blamires, Harry. *Twentieth Century English Literature*. Macmillan, 1982.
3. Boris Ford, ed. *The Pelican Guide to English Literature*, Vol. VII 3rd Edn. Penguin Books Ltd. New York, 1973.
4. C.B. Cox and A. E. Dyson, ed. *Poems of This Century*. 1970.
5. Cronin, A. *Samuel Beckett: The Last Modernist*. London : Flamingo, 1997
6. Esslin, Martin. *The Theatre of the Absurd*, revised and enlarged edition, Penguin Books, 1976.
7. John Hayward, edit. *The Penguin Book of English Verse*, 1987.
8. Laura Marcus and Peter Nicholls. Ed. *The Cambridge History of Twentieth Century English Literature*, Cambridge University Press, 2004.
9. Margaret Drabble. edit. *The Oxford Companion to English Literature*. O.U.P. 1996
10. Press. John. *A Map of Modern English Verse*. London: Oxford University Press, 1969.
11. Philip Larkin, edit. *The Oxford Book of Twentieth Century English Verse*. O.U.P. U.K. 1973
12. Scully, James. *Modern Poets on Modern Poetry: A Critical Introduction*. New York: Oxford University Press, 1960.
13. Sheppard, C.A. ed. *A Pageant of Poems*. Orient Longman Ltd. New Delhi, 1977.
14. Tuma Keith, ed. *Anthology of Twentieth Century British and Irish Poetry*. O.U.P. 2001.

**Kavayitri Bahinabai Chaudhari
North Maharashtra University, Jalgaon
Choice Based Credit System
T.Y.B.A. (History) Sem. V
SEC 3 HIS 354 Travel and Tourism in India
Marks: 60 Periods: 45 Credits: 03**

Objectives

1. To introduce the students to the concept and nature of Tourism.
2. To acquaint the students about tourism planning.
3. To introduce important various tourist destinations in India to the students.
4. To encourage students to pursue career in Tourism.

Outcomes (Students will be able to)

1. Understand the concept and types of Tourism.
2. Acquire adequate knowledge about various aspects in Tourism planning.
3. Explain important information of some Historical tourist places.
4. Develop career in Tourism industry

Chapter 1 - Tourism : Concepts and Types	15
a) Meaning, Definition, Nature and Scope	
b) Objectives and Types of Tourism	
c) Role of History in Tourism	
Chapter 2 - Tourism : Planning	15
a) Planning - Causes, Components	
b) Transports - Recourses and Tourism Development	
c) Accommodation - Types of Accommodation.	
d) Tourist Guide - Characteristics	
Chapter 3 - Historical Tourist Places in India	15
a) Caves: Ajanta, Ellora, Elephanta, Pitalkhora	
b) Forts: Red Fort (Delhi), Janjira, Raigad, Devgiri	
c) Monuments: Taj Mahal (Agra), Goal Ghumat (Vijapur), Bibi Ka Maqbara (Aurangabad)	
d) Religious Places: Golden Temple (Amrutsar), Varanashi, , Mangi - Tungi, Jama Masque (New Delhi), Bodhagaya, Basilica of Bam Jesus Church (Goa), Pandharpur	

BT- 401 INDUSTRIAL AND BUSINESS BIOTECHNOLOGY

Course Objectives:

1. The objectives of this course are to teach students about concepts of entrepreneurship including Identifying a winning business opportunity, gathering funding and launching a business, growing and
2. Nurturing the organization and harvesting the rewards.

UNIT- I

Microbial Production of Organic Acids and Solvents: Production of alcohol by fermentation, Production, recovery and applications of Glycerol, Acetone and butanol, Citric acid, Gluconic acid, Acetic acid, Lactic acid.

UNIT- II

Microbial Production, recovery and applications of Amino Acids: L-Glutamic acid, L-Lysine, L-Phenylalanine and L-Tryptophan, L-Threonine. Microbial Production, recovery and applications of Vitamins: Vitamin-B12 and Riboflavin. Production of Chemotherapeutic Agents: Production, recovery and applications of antibiotics: Penicillin, Streptomycin, Tetracycline, Erythromycin.

UNIT- III

General features of microbial polysaccharides, Production, recovery and applications of polysaccharides: Xanthan, Dextran and Alginate, Polyhydroxy alkanates: Chemistry and properties, Polyhydroxybutyrate (PHB), Biopol-a biodegradable plastic, Microbial recovery of petroleum

UNIT- IV

Production and applications of Proteases, Pectinases, Cellulases, Lipase, Glucose isomerase, Penicillin acylase, Microbial transformation, Types of bioconversion reactions: Oxidation, Reduction, Hydrolytic reactions, Condensations, Transformation of steroids and sterols. Transformation of nonsteroidal compounds: L-ascorbic acid, Prostaglandins, Antibiotics,

UNIT- V

Principles of management, Marketing concepts and functions, Time event-time study (CPM and PERT), Concept and Importance of entrepreneurship and self-employment in India, ISO 9000 quality system standards, Biosafety & IPR

Recommended Books:

1. Manual of Industrial Microbiology and Biotechnology, III edition (1999), Arnold L. Demain and Julian Davies, ASM press, Washington DC
2. Food microbiology, Frazier
3. Industrial Microbiology, Casida
4. Principles of Fermentation Technology by Whitaker, Stanbury, Hall

BT-302 PLANT BIOTECHNOLOGY

Course Objectives: The objectives of this course is to introduce students to the principles, practices and application of animal biotechnology, plant tissue culture, plant and animal genomics, genetic transformation and molecular breeding of plants and animals.

UNIT- I

Introduction to plant cell and tissue culture and historical perspective. Laboratory organization, aseptic manipulations and culture media—composition, preparation and development. Callus culture; Initiation and maintenance of suspension culture- batch and continuous culture, assessment of growth and viability; Static techniques of single cell culture. Micro propagation Organogenesis, somatic embryogenesis and synthetic seeds.

UNIT- II

Meristem culture, shoot tip culture and production of virus free plants. Somaclonal variations, molecular basis of variation and their significance in plant breeding. In vitro production of haploid plants – Androgenesis (anther and pollen culture) and Gynogenesis (ovary and ovule culture). Significance and uses of haploids in agriculture. Embryogenesis and embryo rescue technique.

UNIT- III

Protoplast culture and somatic hybridization – Isolation, culture and fusion of protoplast, selection of fusion products and plant regeneration, assessment of somatic hybrid plants, production of cybrids, In vitro germplasm conservation and cryopreservation.

UNIT- IV

Organization of plant genome – Nuclear genome, Chloroplast genome and mitochondrial genome. Transposon and T-DNA tagging. Chloroplast transformation – vector designing, method and advantages, direct gene transfer in plants, selectable markers, reporter genes and promoters used in plant vectors, molecular characterization of trans formants. Agrobacterium mediated transformation–Ti and Ri plasmids, role of virulence genes, mechanism of T-DNA transfer, vectors based on Ti and Ri plasmids–cointegrate and binary vectors. Gene silencing in transgenic plants.

UNIT- V

Application of DNA technology - transgenic plants with reference to virus and pest resistances - herbicidal resistance - stress tolerance (heat & salt) - cytoplasmic male sterility - resistance to fungi and bacteria - delay of fruit ripening - Ecological risk assessment of genetically modified crops. Plant cells as bio factories for the production of secondary metabolites: bioreactors and immobilized plant cell culture, RFLP maps, linkage analysis, RAPD markers, STS, microsatellites, SCAR (Sequence Characterized Amplified Regions), SSCP, AFLP, QTL.

Recommended Books:

1. Plant tissue culture – Theory and Practice (2005) by Bhojwani S. S. and Razdan M.K., Elsevier publication.
2. Elements of Biotechnology by P. K. Gupta, Rastogi pub.
3. Biotechnology in crop improvement (1998) by H. S. Chawla, International Book distributing company.
4. Plant cell, organ and tissue culture (1995) by Gamborg O.L. and Phillips G.C., Springer Verlag pub. Germany.
5. Plant Tissue Culture – Basic & Applied (2005) by Jha T.B. & Ghosh B., Universities press.

6. Plant cell culture – A practical approach (1994) Dixon R.A., Gonzales R.A. Oxford University press, UK.
7. Plant Tissue Culture Smith R.H. (2000), Plant Tissue Culture, Academic Press
8. Evans D.A. (2003), Plant Cell Culture, Taylor & Francis.
9. Plant Genetic Engineering Vol. 1 - 6 (2003) Singh R. P and Jaiwal P. K.(Eds.), Sci tech publishing LLC, USA.
10. Gene transfer to plants by Potrykus I. and Spangenberg G., Springer Verlag, Germany.
11. Plant biotechnology (2000) by Hammond J, McGarvey P. and Yusibov V.(Eds.) Springer verlag, Germany.
12. Plant gene isolation – Principles and practice (1996) by Foster G.D. and Twell D., John Wiley & Sons, USA.
13. Plant Biotechnology – The genetic manipulation of plants (2003) by Slater A., Scott N. and Fowler M., Oxford pub.
14. Practical application of Plant Molecular Biology (1997) by Henry R.J., Chapman and Hall.
15. Plants, genes and agriculture (1994) by Chrispeels M.J., Sadava D.E, Jones & Bartlett pub., UK.
16. Plant Genetic Engineering; Singh RP and Jaiwal PK (eds), Sci tech Publishing LLC.
17. Plant Gene Isolation – Principles and Practice; Foster GD and Twell D, John Wiley & Sons.
18. Gupta P.K. (2004) Biotechnology and Genomics. Rastogi Publications, Meerut, India.
19. Owen M.R.L. and Pen J. (Eds) (1996) Transgenic Plants: A Production System for Industrial and Pharmaceutical Proteins. John Wiley & Sons, England.

(Computer Science) Syllabus-2021-22
Course Code: CS-303 Software Engineering Clock Hours: 60

Course Objectives:

Students will try to learn:

- The nature of software development and software life cycle process models.
- Explain methods of capturing, specifying, visualizing and analyzing software requirements. Understand concepts and principles of software design and user-centric approach and principles of effective user interfaces.
- To know basics of testing and understanding concept of software quality assurance and software configuration management process.
- Understand need of project management and project management life cycle.
- Understand project scheduling concept and risk management associated to various types of projects.

Unit-I

[10] Max Marks: 10

Introduction and Process Models: Nature of Software, Software Engineering the process, Software Myths. Process Models: Generic process model, Prescriptive process models, specialized process models, Unified process, Personal and Team process model, Process Technology, Product and Process. Agility, cost of change, agile process, Extreme Programming, Agile Process models: Adaptive Software development, Scrum, Dynamic System development model, Crystal, Feature Driven development, Lean Software development, agile modeling, Agile Unified process. Tool set for agile process

Unit-II

[10] Max Marks: 15

Requirement Analysis and Modeling: Requirement Engineering, Establishing Groundwork, Eliciting Requirements Developing Use cases, Building Requirement model, negotiating and validating requirements. Requirement analysis, Scenario based modeling, UML models that supplements use case, Data modeling concepts, class based modeling. Requirement Modeling strategy, Flow oriented modeling, Creating Behavior model, Pattern for Requirement modeling.

Unit-III

[08] Max Marks: 15

Quality Assurance and Change Management: Elements of SQA, SQA Tasks, Goal and Metrics, Formal approaches to SQA, Software Reliability, ISO 9000 Quality standards, SQA Plan. Software Configuration Management, SCM Repository, SCM process

Unit-IV

[11] Max Marks: 20

Design Concept: Design process, Design Concept: Abstraction, Architecture, Pattern, and Separation of concept, Modularity, Information hiding, Functional independence, Refinement, Aspects, and Refactoring. Design Model: Data design element, Architectural design element, Interface design element, Component level design element, Deployment level design element.

Unit-V

[11] Max Marks: 20

Architectural and Component Level Design: Software Architectures, Architectural Genres, Architectural styles, Architectural design, accessing alternatives Architectural design, Architectural mapping using dataflow. Introduction to component, Designing class based Component, Conducting component level design, Designing traditional component, component based development.

Unit-VI

[10] Max Marks: 20

Software Testing: Strategic approach to software testing, Test strategies for conventional software, Validation Testing, System testing, Software testing fundamentals, Internal and external view of testing, White box testing, Basic path testing, Control structure testing, Black box testing, model based testing, Testing for specialized Environment, Architectures and applications.

References:

1. R. S. Pressman, "Software Engineering: A Practitioner's Approach", McGraw-Hill International Edition, Seventh Edition, ISBN:978-007-126782-3.
2. Pankaj Jalote, "Software Engineering: A Precise Approach", Wiley India Pvt. Limited ISBN: 978-81-265-2311-5.
3. K. K. Aggarwal and Yogesh Singh, "Software Engineering", Third Edition, New Age International Publishers, ISBN: 978-81-224-2360-0.

Course Outcome: Students will able to:

- Understand and demonstrate basic knowledge in software engineering
- Define various software application domains and remember different process model used in software development.
- Explain needs for software specifications also they can classify different types of software requirements and their gathering techniques.
- Convert the requirements model into the design model and demonstrate use of software and user interface design principles.
- Distinguish among SCM and SQA and can classify different testing strategies and tactics and compare them.
- Justify role of SDLC in Software Project Development
- Generate project schedule and can construct, design and develop network diagram for different type of Projects.

Course Code: CS-401 Mini Project Guidelines

Course Objectives:

- To provide comprehensive learning platform to students where they can enhance their employ ability skills and become job ready along with real corporate exposure.
- To enhance students' knowledge in one technology.
- To increase self-confidence of students and helps in finding their own proficiency.
- To cultivate student's leadership ability and responsibility to perform or execute the given task.
- To provide learners hands on practice within a real job situation.

Six credits shall be awarded to the Mini Project course, which will commence in the IVth Semester and the final work and report will be completed at the end of IVth Semester of M. Sc. (Computer Science). The student is expected to work on software development project. The project work should have coding part. Student will have to submit the bound project report in university prescribed format at the end of the semester. Student will have to appear for Project Viva-voce and the marks and the credits will be allotted at the end of IVth semester of M. Sc. (Computer Science).

Course Outcomes:

- Capability to acquire and apply fundamental principles of Computers Science.
- Become master in one's specialized technology.
- Become updated with all the latest changes in technological world.
- Ability to communicate efficiently.
- Knack to be a multi-skilled Computer Science professional with good technical knowledge, management, leadership and entrepreneurship skills. Ability to identify, formulate and model problems and find engineering solution based on a systems approach.
- Capability and enthusiasm for self-improvement through continuous professional development and life-long learning.