Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Parner

1.3.2 Syllabus of Courses including Experiential learning through Project work/Field Work/Internship during the year 2020-21

[Courses Offered by Institute]

Sr. No.	Name of Department	Program name	Program code	Name of the Course that include experiential learning through project work/field work/internship	Course code	Year of offering
1	English	BA	SYBA–02	A Certificate Course in Skill Development	SEC-2A	2020-21
2	English	BA	TYBA–03	Entrepreneurship development, Project Report & Oral Communication in English: advanced (Practical Paper)	Fun Eng Paper VI	2020-21
3	Marathi	M.A.	M.A. Mar – 01	भाषा व्यवहार आणि भाषिक कौशल्ये भाग – २	CC-1	2020-21
4	Hindi	MA	MA Hin - 02	आधुनिक काव्य (आदर्शवादी, छायावादीतथा अन्य काव्य)	30501	2020-21
5	Hindi	MA	MA Hin - 02	भाषा विज्ञान	30502	2020-21
6	Hindi	MA	MA Hin - 02	हिंदी साहित्य का इतिहास	30503	2020-21
7	Hindi	MA	MA Hin - 02	संचार माध्यम: सिद्धांत एवं स्वरूप	30505	2020-21
8	History	BA	TYBA-03	Introduction to History	S-3	2020-21
9	Geography	BA	SY BA – 02	Practical Geography – II (Cartographic Techniques, Surveying and Excursion / Village / Project Report)	Gg: 201(B)	2020-21
10	Geography	BA	TY BA – 03	Techniques in Spatial Analysis	- Gg-301	2020-21
11	Geography	MA/MSc	MA/MSc 02	Dissertation / Research Project	GGUP258	2020-21
12	Commerce	M COM	M COM	Banking and Finance	416	2020-21

			02			
13	BBA CA	BBA CA	SYBBA CA 02	EC - Project	CA 405	2020-21
14	BBA CA	BBA CA	TYBBA CA 03	PJ - Project	CA – 505	2020-21
15	BBA CA	BBA CA	TYBBA CA 03	PJ - Project	CA - 605	2020-21
16	Physics	BSc	BSc – Phy - 03	Physics Laboratory Course III (Project)	PHY - 349	2020-21
17	Physics	MSc	MSc – Phy - 02	Project	PHCP - 245	2020-21
18	Chemistry	BSc	SY BSc-02	Practical Chemistry-III	CH-303	2020-21
19	Chemistry	MSc	MSc – OC - 02	Practical Chemistry-III	CBOP-5, CHO-453	2020-21
20	Chemistry	MSc	MSc – AC - 02	Practical Chemistry-III	CBOP-5, CHA-493	2020-21
21	Computer Science	MSc. Computer Science	M.Sc. CS - 02	Industrial Training	CSUIT241	2020-21
22	Computer Science	MSc. Computer Science	M.Sc. CS - 02	Project	CSDT234C	2020-21
23	B Voc	B Voc	FYBVOC RE 01	Practical –IV (On Job Training) Renuable energy Techonology and management	REP-2-5	2020-21
24	B Voc	B Voc	SYBVOC RE 02	Practical –VIII (On Job Training) Renuable energy Techonology and management	REP-4-5	2020-21
25	B Voc	B Voc	TYBVOC RE 03	Practical –X (On Job Training) Renewable energy Technology and management	REP-6-5	2020-21

Faculty of Arts

Course No.: 1
Department: English
Implemented from: 2020-21
Detailed Syllabus:
Title: A Certificate Course in Skill Development (Course Code – SEC-2A)
[Credits-2]

Syllabus of Course

"A Certificate Course in Skill Development"

Objectives:

1. Enhancing the skill of using English for everyday communication
2. To acquaint the students with the verbal and nonverbal communication
3. To create opportunities to access exposure of speaking in various contexts
4. To acquaint and familiarize the students with soft skills
5. To develop interest among the students to interact in English

SEMESTER-III

Course content:

A) Introducing Yourself and Others

B) Joining and Leaving Conversation

C) Accepting/Declining Invitations

D) Asking/Giving/Refusing Permission

E) Digital Literacy

F) Project Management

SEMESTER-IV

Course content:

A) Asking/Giving/Refusing Information

B) Agreeing/Partial Agreeing/Disagreeing

C) Complaining

D) Apologizing

E) Vocabulary Building

F) Delivering a Speech

Course No.: 2
Department: English
Implemented from: 2015-16
Detailed Syllabus:
Title: Entrepreneurship development, Project Report & Oral Communication in English: advanced (Practical Paper) (Course Code – Fun Eng Paper-VI)

Syllabus of Course

"Entrepreneurship development, Project Report & Oral Communication in English: advanced (Practical Paper)"

Objectives:

1. Encouraging students to thrash out the possibility of self employment.
2. Providing them with basic sources of information regarding SSI.
3. Promoting the idea of self employment through field work, study reports and interviews
4. Leading students to overall development of personality through key competency modules
5. Initiating students into research through project report
6. Furnishing basic information about ethics, business ethics, role of an individual in society so as to develop a value-base among students through Key Competency Modules
7. Exposing students to work environment and work experience through visits and field work
8. Creating a possibility of focused writing in the field of their interest

Term I (Lectures: 48 (Figures to the right indicate lectures allotted per topic))

Course Content

Unit I : Entrepreneurship Development

- Meaning and Concept of Entrepreneurship Development
- Factors affecting the growth of Entrepreneurship
- Benefits of Being an Entrepreneur
- Qualities of an Entrepreneur
- SWOT Analyses
- Functions of an Entrepreneur
- Unit II 4 +2 Practical

- Promotional steps for starting a Small Scale Industry
- Meaning, definition and types of SSI
- Role of the Government in promoting SSI
- Sources of Information: Practical
- District Industry Centre, MIDC, MS SSI Development Corporation, National Institute of E and Small Business Development (IESBUD), National E Development Board (NEDB), E D Institute of India (EDII), State Industrial Development Bank (SIDBI), MSEB, office of the Charity Commissioner

Unit II Service Industries:

- meaning, definition and scope,
- process of registration: small scale and service industries
- Similarities and difference between small scale and service industries

Unit III

Techno Economic Feasibility Assessment

- Primary Project Report
- Detailed Project Report
- Techno Economic Feasibility Report

Unit IV 6

- Personnel Management
- Meaning and Definition
- Recruitment and Selection
- Training

Unit V 4

- Legal Aspects – Agreements, Franchisee, Lease.
- Basic Knowledge of Income tax, sales tax, VAT
- Factory Act and Payment of wages Act, shop act

Unit VI 8

Motivational Stories of Two Successful Entrepreneurs: Practical: Field work as well as reading biographies/ autobiographies.

Practical

Sr No	Title of the Practical	Objective	Mode
1	Experiences of Entrepreneur	Identification of Entrepreneurial Qualities	Interview
2	Pitfalls of Entrepreneurship	Problems faced by an Entrepreneur	Interview
3	Preparation of a project report	Understanding Techno Economic Feasibility Assessment	Project Work
4	Modern Management Techniques	Technique To study/survey the development of an Industry	Visit

Key Competency Modules

- Managing Professional Challenges
- General and professional Ethics

Term II A

I. Voice Culture, Voice Modulation: breath- control, sharpness, and volume of voice, pitch variation, pronunciation and intonation. The above will be tested in the external practical exam for 5 marks from the overall performance.

II. Preparing News Bulletin for Radio/TV containing international, national, regional, local and sports news. This bulletin will be prepared by students themselves and will not be downloaded. Students will work on it for the term and keep it ready before final practical exam for reading. A copy of the same will be submitted to the dept beforehand. (The students may be encouraged t transcribe their script phonemically)

III. Speech of about 5to 7 minutes on a given topic.

Students will be encouraged to hear public speeches and write analysis of the same in their journal from the point of view of language, organization of thought, expressions of ideas and emotions, informative ness, use of illustrations, quotations, body language, effectiveness etc. They may be given a list of topics for practice as well as to write the outline plan of the speech they will make.

IV. Talking in a group- a 'free-talk' activity to test spontaneity, naturalness, vocabulary, initiation, cooperation, consistency in expressing opinion etc.

B Project Report or exercises in creative performance in any one area of language use studied in FE Syllabi

Course No.: 3
Department: Marathi
Implemented from: 2019-20
Detailed Syllabus:
Title: भाषा व्यवहार आणि भाषिक कौशल्ये भाग – २ (Course Code – CC-1)
[Credits-4]

Syllabus of Course

"भाषा व्यवहार आणि भाषिक कौशल्ये भाग – २"

दुसरे सत्र

विषयाचे नाव : भाषाव्यवहार आणि भाषिक कौशल्ये भाग-२ (CC-5)

घटक १. भाषांतर व अनुवाद लेखन

१.१ भाषांतराचे स्वरूप

१.२ भाषांतराची आवश्यकता व महत्त्व

१.३ भाषांतराचे विविध प्रकार

१.४ भाषांतर, अनुवाद, भावानुवाद आणि रूपांतर यातील साम्य-भेद

१.५ इंग्लिश उताऱ्याचे मराठीत भाषांतर करणे

१.६ हिंदी उताऱ्याचे मराठीत भाषांतर करणे.

१५ तास १ श्रेयांक

घटक २ निवेदन कौशल्ये

२.१ निवेदनाची आवश्यकता व स्वरूप

२.२ निवेदनाची तंत्रे, निवेदनाची शैली

२.३ विविध कार्यक्रमांचे नियोजन-आयोजन

२.४ विविध कार्यक्रमांचे निवेदन आणि सूत्रसंचालन (सांस्कृतिक कार्यक्रम, जाहीर कार्यक्रम आकाशवाणी व दूरदर्शनवरील कार्यक्रम)

२.५ प्रभावी निवेदनाचे गुणविशेष

१५ तास १ श्रेयांक

घटक ३ जनसंपर्क : संकल्पना व स्वरूप

३.१ जनसंपर्काचे स्वरूप व आवश्यकता

३.२ जनसंपर्क कौशल्याची तंत्रे, जनसंपर्क कौशल्याची भाषा

३.३ माहिती व जनसंपर्क अधिकारी

३.४ शासन, विद्यापीठे, शैक्षणिक संस्था, बँका, कंपन्यांसाठी जनसंपर्काचे महत्त्व व आवश्यकता

१५ तास १ श्रेयांक

घटक ४ प्रकल्पलेखन : स्वरूपचर्चा

४.१ वाङ्मयीन प्रकल्पलेखनाचे स्वरूप

४.२ प्रकल्पलेखनातील घटक

४.३ प्रकल्पलेखनाची भाषा

४.४ प्रकल्पलेखनातील संदर्भ नोंदी

४.५ प्रत्यक्ष प्रकल्पलेखन (प्रकल्पलेखनास १० गुण असतील)

४.६ प्रकल्पलेखनासाठी काही विषयक्षेत्रे (नमुना सूची)

आकाशवाणीवरील प्रमुख कार्यक्रम, दूरचित्रवाणीचे सांस्कृतिक क्षेत्रातील कार्य. आकाशवाणी / दूरचित्रवाणी / नियतकालिकासाठी प्रत्यक्ष मुलाखत घेणे, शैक्षणिक सहल आयोजित करणे, प्रसारमाध्यमांचे कार्यालय, प्रकाशन संस्था यांना भेटी देणे, लेखनातील संगणकाचा वापर इत्यादी.

१५ तास १ श्रेयांक

संदर्भ ग्रंथ

१. व्यावहारिक मराठी	पुणे विद्यापीठ प्रकाशन
२. व्यावहारिक मराठी	डॉ.कल्याण काळे, डॉ.दत्तात्रय पुंडे
३. व्यावहारिक मराठी	संपादक डॉ .स्नेहल तावरे
४. व्यावहारिक मराठी	डॉ. लीला गोविलकर, डॉ.जयश्री पाटणकर
५. व्यावहारिक मराठी	डॉ. सयाजीराजे मोकाशी, प्रा. रंजना नेमाडे,
६. व्यावहारिक मराठी	ल. रा. नसिराबादकर
७. व्यावहारिक मराठी विशेषांक	नवभारत ,ऑ.-सप्टेंबर १९८२, प्राज्ञ पाठशाळा, वाई
८. मराठी शुद्धलेखन प्रदीप	मो.रा.वाळंबे, जुनी आवृत्ती, नितीन प्रकाशन, पुणे-३०
९. मराठी शुद्धलेखन प्रदीप	मो.रा.वाळंबे, संपा. अरुण फडके,पुणे-३०
१०.मराठी लेखन मार्गदर्शिका	राज्य मराठी विकास संस्था ,यास्मिन शेख
११.मराठी शब्दलेखनकोश	यास्मिन शेख, हर्मीस प्रकाशन, पुणे.
१२.पॉप्युलर रीतिपुस्तक	रामदास भटकळ, मृदुला जोशी, पॉप्युलर प्रकाशन
१३.शुद्धलेखन विवेक	डॉ. द.न.गोखले,सोहम प्रकाशन, पुणे-३०
१४.भाषांतरमीमांसा	डॉ अंजली सोमण.डॉ ,कल्याण काळे .
१५.भाषांतर	सदा कऱ्हाडे, लोकवाङ्मयगृह, मुंबई.
१६.भाषांतर शास्त्र की कला	म. वि. फाटक, रजनी ठकार, वरदा प्रकाशन
१७.भाषांतर आणि भाषा	विलास सारंग, मौज प्रकाशन
१८.अनुवादमीमांसा	संपादक केशव तुपे, साक्षात, औरंगाबाद
१९. मराठी भाषेची संवाद कौशल्ये	य.च.म.मुक्त विद्यापीठ, नाशिक;पुस्तक क्र.१ते ८
२०. प्रसार माध्यमांसाठी लेखनकौशल्ये	य.च.म.मुक्त विद्यापीठ, नाशिक
२१. संपादन: स्वरूप व कौशल्ये)MCJ-305)	य.च.म.मुक्त विद्यापीठ, नाशिक
२२. प्रशासनिक मराठी भाषेचा विकास	गीता भागवत,राज्य मराठी विकास संस्था,प्रशासन, मुंबई
२३. मुद्रित शोधन	वाय.ए.धायगुडे,दि.पूना प्रेस ओनर्स असोसिएशन
२४. मराठी लेखनकोश	अरुण फडके,ढवळे प्रकाशन, मुंबई

Course No.: 4
Department: Hindi
Implemented from: 2020-21
Detailed Syllabus:
Title: आधुनिक काव्य (आदर्शवादी, छायावादीतथा अन्य काव्य) (Course Code – 30501)
[Credits-4]

Syllabus of Course

"आधुनिक काव्य (आदर्शवादी, छायावादीतथा अन्य काव्य)"

एम. ए. हिंदी साहित्य द्वितीय वर्ष

तृतीय अयन (Third Semester)
पाठ्यचर्या : 9 आधुनिक काव्य (आदर्शवादी, छायावादी तथा अन्य काव्य)
4 कर्नांक (Credit)

उद्देश्य :

1. छात्रों को आधुनिक काव्य से अवगत कराना।
2. छात्रों में आधुनिक काव्य–अध्ययन की दृष्टि विकसित करना।
3. काव्य मूल्यांकन–दृष्टि विकसित करना।
4. काव्य–संवेदना एवं शिल्पगत अध्ययन से छात्रों को अवगत करना।
5. छात्रों में काव्य–सर्जन कला का विकास करना।

इकाई	पाठ्यविषय	तासिकाएँ
इकाई– I	साकेत (नवम् सर्ग) – मैथिलीशरण गुप्त संवदेना एवं शिल्पगत अध्ययन	15 तासिकाएँ
इकाई– II	कामायनी (लज्जा सर्ग) – जयशकर प्रसाद संवदेना एवं शिल्पगत अध्ययन	15 तासिकाएँ
इकाई– III	1) बीन भी हूँ मै तुम्हारी रागिनी भी हूँ – महादेवी वर्मा 2) पहाडी बच्चा – निर्मल पुतुल 3) कूडा बीनते बच्चे – अनामिका 4) जिंदगी का नमक – निर्मला गर्ग 5) अधेरे में बुदध – गगन गिल उक्त रचनाओं का, संवदेना एवं शिल्पगत अध्ययन।	15 तासिकाएँ
इकाई– IV	1) बात बोलेगी – शमशेर बहादुर सिंह 2) एक पीली शाम – शमशेर बहादुर सिंह 3) भारत की आरती – शमशेर बहादुर सिंह 4) रोटी और संसद – धूमिल 5) मोचीराम – धूमिल उक्त रचनाओं का, संवदेना एवं शिल्पगत अध्ययन।	15 तासिकाएँ

M.A. Syllabus/2020/Hindi/BOS Chairman/JBG. Doc Page 3

अंक विभाजन – पूर्णांक : 100
आंतरिक मूल्यांकन –50 (लघुत्तरी परीक्षा–20, शोध परियोजना–20, प्रस्तुतिकरण–10)
सत्रांत परीक्षा – 50

Course No.: 5
Department: Hindi
Implemented from: 2020-21
Detailed Syllabus:
Title: भाषा विज्ञान (Course Code – 30502)
[Credits-4]

Syllabus of Course

"भाषा विज्ञान"

एम. ए. हिंदी साहित्य द्वितीय वर्ष

तृतीय अयन : (Third Semester)
पाठ्यचर्या : 10 भाषा विज्ञान
4 कर्मांक (Credit)

उद्देश्य :

1. भाषाविज्ञान के स्वरूप का परिचय देना।
2. छात्रों को भाषाविज्ञान की व्याप्ति समझाना।
3. भाषाविज्ञान के अध्ययन की दिशाओं का परिचय देना।
4. भाषाविज्ञान के अनुप्रयोगात्मक पक्ष को समझाना।
5. साहित्य–अध्ययन में भाषाविज्ञान की उपयोगिता समझाना।

इकाई	पाठ्यविषय	तासिकाएँ
इकाई– I	भाषाविज्ञान : परिभाषा, स्वरूप और व्याप्ति, अध्ययन की दिशाएँ।	15 तासिकाएँ
इकाई– II	स्वनिम विज्ञान : स्वन की परिभाषा, वागावयव और कार्य, स्वन वर्गीकरण, स्वनगुण, स्वनिम परिवर्तन।	15 तासिकाएँ
इकाई– III	रूपिम विज्ञान : रूप प्रक्रिया का स्वरूप और शाखाएँ, रूपिम की परिभाषा, रूपिम के भेद और प्रकार्य। पदबंध और उपवाक्य : पदबंध का स्वरूप, पदबंध के भेद, उपवाक्य का स्वरूप, उपवाक्य के भेद।	15 तासिकाएँ
इकाई– IV	वाक्य विज्ञान : वाक्य की परिभाषा और स्वरूप, वाक्य के भेद, वाक्य विश्लेषण। अर्थ विज्ञान : अर्थ की परिभाषा और स्वरूप, शब्द और अर्थ का संबंध, अर्थ परिवर्तन की दिशाएँ और कारण।	15 तासिकाएँ

अंक विभाजन – पूर्णांक : 100
आंतरिक मूल्यांकन –50 (लघुत्तरी परीक्षा–20, शोध परियोजना–20, प्रस्तुतिकरण–10)
सत्रांत परीक्षा – 50
सत्रांत परीक्षा – प्रश्नपत्र का स्वरूप :

Course No.: 6
Department: Hindi
Implemented from: 2020-21
Detailed Syllabus:
Title: हिंदी साहित्य का इतिहास (Course Code – 30503)
[Credits-4]

Syllabus of Course

"हिंदी साहित्य का इतिहास"

पाठ्यचर्या : 11 हिंदी साहित्य का इतिहास (आदिकाल, भक्तिकाल, रीतिकाल)
4 कर्मांक (Credit)

उद्देश्य :

1. हिंदी साहित्येतिहास लेखन का परिचय देना।
2. हिंदी साहित्येतिहास के कालविभाजन तथा नामकरण का परिचय देना।
3. आदिकालीन, भक्तिकालीन, रीतिकालीन प्रमुख साहित्यिक प्रवृत्तियों, रचनाकारों और रचनाओं से परिचित कराना।

इकाई	पाठ्यविषय	तासिकाएँ
इकाई– I	हिंदी साहित्येतिहास दर्शन, हिंदी साहित्येतिहास लेखन की पद्धतियाँ, हिंदी साहित्य का इतिहास : काल विभाजन और नामकरण।	15 तासिकाएँ
इकाई– II	आदिकाल की विशेषताएँ एवं साहित्यिक प्रवृत्तियाँ, रासो साहित्य, जैन साहित्य, सिद्ध और नाथ साहित्य। अमीर खुसरो की हिंदी कविता।	15 तासिकाएँ
इकाई– III	भक्ति आंदोलन का अखिल भारतीय स्वरूप, आलवार संत, भक्तिकाल का प्रमुख संप्रदाय और उनका वैचारिक आधार। निर्गुण–सगुण कवि और उनका काव्य। निर्गुण धारा के कवि : कबीर, रैदास, दादू, नामदेव, जायसी, कुतुबन, मंझन। सगुण धारा के कवि : सूरदास, मीराबाई, रसखान, नंददास, तुलसीदास, नाभादास।	15 तासिकाएँ
इकाई– IV	रीतिकाल की सामाजिक–सांस्कृतिक पृष्ठभूमि, रीतिकाल की प्रमुख प्रवृत्तियाँ– रीतिबद्ध, रीतिसिद्ध और रीतिमुक्त। रीतिकाल के प्रमुख कवि और उनका काव्य। बिहारी, केशव, घनानंद, देवा, भूषण, बोधा, आलम, ठाकुर।	15 तासिकाएँ

Course Nc
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Detailed S
Title: संचा

अंक विभाजन – पूर्णांक : 100
आंतरिक मूल्यांकन –50 (लघुत्तरी परीक्षा–20, शोध परियोजना–20, प्रस्तुतिकरण–10)
सत्रांत परीक्षा – 50
सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

[Credits-4]

Syllabus of Course

"संचार माध्यम: सिद्धांत एवं स्वरूप"

एम. ए. हिंदी साहित्य द्वितीय वर्ष

तृतीय अयन : (Third Semester) वैकल्पिक
पाठ्यचर्या : 12 (ख) संचार माध्यम : सिद्धांत और स्वरूप
4 कर्मांक (Credit)

उद्देश्य :

1. संचार माध्यम और संप्रेषण अवधारणाओं का परिचय देना।
2. संचार माध्यम की अवधारणा और स्वरूप का परिचय देना।
3. संचार माध्यम की बहुआयामी भूमिका का परिचय देना।
4. संचार माध्यम कौशल विकसित करना।

इकाई	पाठ्यविषय	तासिकाएँ
इकाई– I	संचार, जनसंचार तथा संप्रेषण : अवधारणा और स्वरूप। संचार माध्यम : सिद्धांत और स्वरूप। संचार के संघटक तत्व। संचार–माध्यमों से लाभ–हानि।	15 तासिकाएँ
इकाई– II	सूचना क्रांति बनाम सूचना–उद्योग। संचार माध्यम के प्रकार : 1) परंपरागत, 2) मौखिक, 3) लिखित, 4) आधुनिक।	15 तासिकाएँ
इकाई– III	आधुनिक संचार माध्यम : 1) मुद्रित, 2) रेडियो, 3) चलचित्र, 4) विद्युतीय, 5) बहुमाध्यम, 6) हाइपर मीडिया संचार माध्यमों द्वारा संप्रेषित संदेश की भाषिक प्रकृति।	15 तासिकाएँ
इकाई– IV	संचार माध्यमों की बहुआयामी भूमिका : 1) जन संपर्क, 2) जन शिक्षण, 3) जन प्रबोधन, 4) जन निर्माण, 5) जन समस्या का समाधान, 6) जन रंजन। वर्तमान सूचना क्रांति के विविध आयाम।	15 तासिकाएँ

अंक विभाजन – पूर्णांक : 100

आंतरिक मूल्यांकन –50 (लघुत्तरी परीक्षा–20, शोध परियोजना–20, प्रस्तुतिकरण–10)

सत्रांत परीक्षा – 50

Course No.: 8
Department: History

Implemented from: 2015-16
Detailed Syllabus:
Title: Introduction to History (Course Code – S-3)
[Marks-100]

Syllabus of Course

"Introduction to History"

Objectives:

1. To orient students about how history is studied, written and understood.
2. To explain methods and tools of data collection
3. To understand the meaning of Evolution of Historiography.
4. To study the Various Views of Historiography.
5. To study the approaches to Historiography.
6. To study the types of Indian Historiography.
7. To describe importance of inter-disciplinary research.
8. To introduce students to the basics of research.
9. To acquaint the student with the recent research in History.
10. Learn how to use sources in their presentation.

First Term

1. Conceptual Study **(08)**

1.1 History

1.2 Heuristic

1.3 Archives

1.4 Oral History

1.5 Cronical

1.6 Sanad / Farman

1.7 Marxism

1.8 New Marxism

1.9 Modernism

1.10 Post - Modernism

1.11 Structuralism

1.12 Post – Structuralism

2. Nature and Scope of History **(10)**

2.1 Meaning and Definition

2.2 Nature and Scope of History

2.3 Importance

3. Sources of Historical Research **(10)**

3.1 Primary and Secondary

3.2 Written and Un- written

3.3 Importance of Sources

4. Historical Research **(10)**

4.1 Selection of Research Problem

4.2 Historical Methods

4.3 External Criticism

4.4 Internal Criticism

4.5 Interpretation

5. Major Archives in Maharashtra: Brief Study **(10)**

5.1 Mumbai Archives

5.2 Pune Archives

5.3 Bharat Itihas Sanshodhak Mandal, Pune

5.4 Nagpur Archives

5.5 Kolhapur Archives

5.6 V.K.Rajwade Itihas Sanshodhak Mandal, Dhule

5.7 Deccan College

Second Term

6. History and Social Science **(10)**

6.1 History and Geography

6.2 History and Political Science

6.3 History and Economics

6.4 History and Sociology

7. School of Historiography **(10)**

7.1 Imperialist

7.2 Nationalist

7.3 Marxist

7.4 Subaltern

7.5 Local History

8. Historians Of Maharashtra **(10)**

8.1 V. K. Rajwade

8.2 G. S. Sardesai

8.3 T. S. Shejwalkar

8.4 G. H. Khare

8.5 J. Sarkar

9. Indian Historians **(10)**

9.1 R. C. Mujumdar

9.2 K. A. Niolkanth Shastri

9.3 D. D. Kosambi

9.4 Romila Thapar

10. Historical Study Tour or Project Work

PROJECT WORK & EVALUATION SCHEME

1. Term end examination of 60 marks shall be held at the end of the first term.

2. Candidate shall submit a report of minimum 3000 words i.e. 10 to 15 pages to the department by end of the February.

3. A viva-voce should be conducted before theory examination and the results should be sent to the University as immediately

4. The result should be prepared as follows:

a) 60 marks of term end examination converted in to 20 marks

b) 50 marks Annual examination for 2 hours conducted by University of Pune Equal weightage for all topics

c) 30 Marks exam should be conducted by the department 20 marks for Project work & 10 marks Viva-voce exam.

Course No.: 9
Department: Geography
Implemented from: 2020-21
Detailed Syllabus:
Title: Practical Geography – II (Cartographic Techniques, Surveying and Excursion / Village / Project Report) (Course Code – Gg: 201(B))
[Credits-4]

Syllabus of Course

"Practical Geography – II (Cartographic Techniques, Surveying and Excursion / Village / Project Report)"

Objectives:

1. To introduce the students to the basic and contemporary concepts in Cartography.
2. To acquaint the students with the utility and applications of various Cartographic Techniques.
3. To introduce the latest concepts regarding the modern cartography in the field of Geography.
4. To explain the elementary and essential principles of practical work in Geography.

Course Outcome:

After the successful completion of the course, the students will be able to:

1. Develop practical knowledge and application of cartographical techniques.
2. To make students aware of the new techniques, accuracy and skills of Map Making.

Note:

1. Use of Map stencils, Log tables, Calculators, Statistical Tables is allowed at the time of Examination.
2. Journal completion by the students and the certified by practical in-charge and Head of the Department is compulsory.
3. Students without a certified journal should not be allowed for the practical examination.

4. Each of the practical batches needs a separate question paper.

Sr. No.	Topic	Sub Topic & Learning Point	Hours	Credits
1.	Introduction to Cartography	1. Definition of Cartography 2. Development of cartography a. Traditional b. Modern 3. Use of Cartography	02	04
2.	Cartographic techniques	1. Techniques of representation of data (Use and limitations) a. Simple line graph b. Simple bar Graph c. Pie diagram d. Choropleth Map e. Isopleth Method (Isoheight or Isothermal) f. Flow diagram (At least 01 example of each manually and using computer)	06	
3	Surveying	1. Definition of Surveying 2. Types of North Direction (True, Magnetic and Grid North) 3. Types of Survey (Any three) a. Plane Table Survey : (Radiation Method and Intersection Method) b. GPS Survey and plotting c. Dumpy level / Auto level survey i) Rise and Fall Method ii) Collimation Method d. Demonstration of Total Station 4. Measurement of land: i) Measurement of survey field ii) Example on measurement of area (Circle, Square, Rectangle, Triangle, Uneven shape) iii) Conversion of area (hector into Acer, Square km into square meter, Square meter to Square feet)	08	
4	Excursion / village/city survey and	Study tour to places of geographical interest anywhere in the country Or	04	

	report writing	Socio- economic survey of village/city		

Course No.: 10
Department: Geography
Implemented from: 2015-16
Detailed Syllabus:
Title: Techniques in Spatial Analysis (Course Code – Gg: 301)
[Marks-100]

Syllabus of Course

"Techniques in Spatial Analysis"

Objectives:

1. To Introduce the Students with SOI Toposheets and to acquire the Knowledge of Toposheet Reading/Interpretation.
2. To familiarize the students with the weather instruments and their applications in Geographical phenomena.
3. To acquaint the students with IMD weather maps and to gain the knowledge of weather map Reading / interpretation.
4. To train the students in elementary statistics as an essential part of geography.
5. To awareness about GIS among the students.

Section-I

Unit No.	Topic	Learning Points	Periods
01	Toposheets	a. Introduction to Survey of India (SOI) toposheets, Marginal Information, Grid reference, Conventional signs and symbols b. Types of toposheet/Indexing of toposheets i. 1: 1000000/Million sheet ii. 1:250000/Degree sheet/Quarter inch sheet iii. 1:100000/Half inch sheet	15

		iv. 1:50000/One inch sheet v. 1:25000 vi. 1: 5000	
02	Methods of Relief Representation	1. Methods of Relief Representation a. Qualitative :- Hachures, Hill shading, Layer Tint b. Quantitative:- Contours, Form lines, Bench Marks, Spot Heights, Triangulation Mark, Relative Height (r) 2. Representation of Relief features by Contours a. Concave Slope, Convex Slope, Steep Slope, Gentle Slope, Terraced / Uniform b. Conical Hill, Spur, Plateau, Ridge, Saddle, Pass, Cliff & Waterfall 3. Profile a. Drawing and Description of Cross Profile of any Region from toposheet b. Drawing and Description of Longitudinal Profile of a Road or a River	15
03	Toposheet Reading, Interpretation & data generation	1. Reading of at least three SOI toposheets one each for Plain, Plateau and Mountainous/hilly Region 2. One day field Excursion for Orientation of toposheet, Observation and Identification of Geographical Features and Preparation of a Brief Report	15
04	Application of Remote Sensing Techniques in Geography	Introduction of Aerial Photographs & Satellite Image 2. Stereoscopic View of Aerial Photographs & Satellite Image and Identification of Geographical features 3. Use of Computer open source software for visualization of Arial Photographs & Satellite Image	15
II Section			
05	Weather Maps & Reading	a. Introduction to Weather Maps b. Symbols in Daily Weather Report used by India Meteorological Department (IMD) c. Isobaric pattern Cyclones, Anti cyclones, V shaped Cyclones, V Shaped Anti Cyclones , Col a. Reading of Weather Map of Three Seasons i. Summer ii. Monsoon iii. Winter b. One day visit to nearby weather station of IMD	12
06	Geographical Data &	a. Spatial and Temporal data b. Discrete and Continuous series	12

	Measures of Central Tendency	c. Grouped and Ungrouped data d. Meaning and description of central tendencies- Mean, Mode, Median e. Calculation of Mean, Mode, Median for ungrouped and grouped data (two examples each)	
07	Measures of dispersion	a. Variance and Standard deviation for ungrouped and grouped data (two examples each)	06
08	Correlation & Regression Testing of Hypothesis	a. Correlation and regression i. Concept of bivariate correlation and regression ii. Meaning of coefficient of correlation iii. Calculation of Pearson's Product-Mount iv. Correlation Coefficient (Two examples) v. Calculation of Spearman Rank order vi. Coefficient (Two examples) b. Parametric and Non-parametric tests i. Chi-square test (One-sample case only) ii. Student's t-test (Comparison of sample means)	10
09	Field Excursion/ Village Survey Report	a. One short tour of two days duration and preparation of tour report OR One long tour of more than five days duration anywhere in the country and preparation of tour report OR Village survey and preparation of report	20

Course No.: 11
Department: Geography
Implemented from: 2020-21
Detailed Syllabus:
Title: Dissertations / Research Project (Course Code – GGUP-258)
[Credits- 4]

Syllabus of Course

"Dissertations / Research Project"

1. The students shall declare the option of dissertation at the beginning of the 3rd semester.
2. A Post Graduate recognized teacher in a department is eligible to guide the students.
3. General Guide Lines:
    a. Introduction to the problem
    b. Aims and objectives of the study
    c. Data and Methodology
    d. Analysis, description and interpretation
    e. Results and Conclusions
    f. References/Bibliography
4. Every table, figure, photograph should have a caption and with references.
5. The list of references should be given at the end and all the references should be complete in all respects (author(s)) name, year, title of the article or book, name of the journal, name of the publisher of the book and place of publication, volume of journal and page numbers)
6. The total number of pages should be minimum 50, including text, figures, tables, photographs, references and appendices.
7. At the time of viva-voce presentation may be given with the help of equipments which are available in the respective department

Faculty of Commerce

Course No.: 12
Department: Commerce
Implemented from: 2020-21
Detailed Syllabus:
Title: Banking and Finance (Course Code – 416)
[Credits- 4]

Syllabus of Course

"Banking and Finance"

The following are the topics suggested for Project Work:

1. A study of trends in mutual funds
2. Financial Inclusion & unskilled worker.
3. Rural Development & role of NABARD
4. A study of Bank portfolio
5. Banking Development Problems & Perspectives
6. Role of IT in Banking industry: constraints & challenges
7. A study of New Banking products
8. A study of Marketing of Banking products
9. A study of Companies (Amendment) Act 2013 with reference to Banking
10. Capital Adequacy Norms: constraints & challenges
11. Project Evaluation Tools & Techniques
12. Assessment of Financial Health through Ratio Analysis
13. Study of Bank Balance Sheet.
14. Study of Urban Co-Operative Bank.

15. Study of Non-Performing Assets.
16. Study of Capital adequacy of Public sector, Private sector and Co-Operative Banks.
17. Study of Foreign bank branch working in India.
18. Study of forex operation of Indian banks located in your city.
19. Study of National securities depositary and Demat Account.
20. Study of Social banking (Prime Minister Rozgar Yojana,
21. Suwarna Jayanti Sahara Rozgar Yojana, NAREGA, The Urban Self employmentprograme.)
22. Study of Self-help group in Maharashtra.
23. Study of Recent Mergers and acquisition in banks.
24. Study of recent mergers of banks and its implication on bank employee.
25. Study of Foreign institutional investments.
26. Study of Recent reforms in capital market.
27. Study of R.B.I. recent monetarypolicy
28. Study of Stock Exchange
29. Study of Non-Banking Finance Companies.
30. Study of Role of N.G.O's.
31. Study of International Financial Institutions.
32. Study of International Investors.
33. Skill Development for unemployment Youth.
34. Study of Self Help Groups.
35. Study of investor's portfolio.
36. Study of investor's awareness and education by SEBI.
37. Study of role of SEBI.
38. Study of different schemes of mutual funds.
39. Study of companies deposits.
40. Study of GDR and ADR
41. Study of FDI.

Note:

1. Clarity with respect to any topic mentioned above be given by the concerned subject teacher / Guide.
2. Student is required to choose one institution / scheme at a time.
3. The topics mentioned are for guidelines and the concerned subject teachers have the privilege to choose and suggest any other topic other than the above

Course No.: 13
Department: BBA (CA)
Implemented from: 2020-21
Detailed Syllabus:
Title: EC-Project (Course Code – CA405)
[Credits-4]

Syllabus of Course

"EC-Project"

Programme Objectives:

1. To produce skill oriented human resource.
2. To import practical skills among students.
3. To make industry ready resource.
4. To bring the spirit of entrepreneurship.

Programme Structure:

1. The Programme is of a Three Year (Six semesters) Full Time Degree Programme.
2. The programme shall be based on credit system comprising 132 credits.

Titles of Papers and Scheme of Study for B.B.A. (C.A.):

CC-Core Course, EC-Elective Course, PR-Practical, PJ-Project, AECC-Ability Enhancement Compulsory Courses
SEC-Skill Enhancement Courses.

SEMESTER- IV

Subject Code	Subject Name	Course	Credits	
			Th	Pr
CA-401	Networking	CC	3	
CA-402	Object Oriented Concepts Through CPP	CC	3	
CA-403	Operating System	CC	3	
CA-404	**NODE JS**	**EC**	**3**	
OR				
CA-404	**Advance PHP**	**EC**	**3**	
CA-405	Project	EC		4
CA-406	Computer Laboratory Based on 402,404 (2 credits each)	PR		4
4	ADD-On (30 Hours)	SEC	2	

Course No.: 14
Department: BBA (CA)
Implemented from: 2015-16
Detailed Syllabus:
Title: PJ-Project (Course Code – CA505)
[Credits-4]

Syllabus of Course

"PJ-Project"

Programme Objectives:

5. To produce skill oriented human resource.
6. To import practical skills among students.
7. To make industry ready resource.
8. To bring the spirit of entrepreneurship.

Programme Structure:

3. The Programme is of a Three Year (Six semesters) Full Time Degree Programme.
4. The programme shall be based on credit system comprising 132 credits.

Titles of Papers and Scheme of Study for B.B.A. (C.A.):

CC-Core Course, EC-Elective Course, PR-Practical, PJ-Project, AECC-

Ability Enhancement Compulsory Courses

SEC-Skill Enhancement Courses.

SEMESTER-V

Subject Code	Subject Name	Course	Credits	
			Th	Pr
CA-501	Cyber Security	CC	3	
CA-502	OOSE	CC	3	
CA-503	Core Java	CC	3	
CA-504	Mongo DB	EC	3	
OR				
CA-504	Python	EC	3	
CA-505	Project	PJ		4
CA-506	Computer Laboratory Based on 503 and 504(2 credits each)	PR		4
5	Add on Course-IOT(30 Hours)		2	

Course No.: 15
Department: BBA (CA)
Implemented from: 2015-16
Detailed Syllabus:
Title: PJ-Project (Course Code – CA605)
[Credits-4]

Syllabus of Course

"PJ-Project"

Programme Objectives:

9. To produce skill oriented human resource.
10. To import practical skills among students.
11. To make industry ready resource.
12. To bring the spirit of entrepreneurship.

Programme Structure:

5. The Programme is of a Three Year (Six semesters) Full Time Degree Programme.
6. The programme shall be based on credit system comprising 132 credits.

Titles of Papers and Scheme of Study for B.B.A. (C.A.):

CC-Core Course, EC-Elective Course, PR-Practical, PJ-Project, AECC-

Ability Enhancement Compulsory Courses

SEC-Skill Enhancement Courses.

SEMESTER-VI

Subject Code	Subject Name	Course	Credits	
			Th	Pr
CA-601	Recent Trends in Information Technology(Tutorial/Assignment)	CCT	3+1	
CA-602	Software Testing	CC	3	
CA-603	Advanced Java	CC	3	
CA-604	Android Programming	EC	3	
OR				
CA-604	Dot Net framework	EC	3	
CA-605	Project	PJ		4
CA-606	Computer Laboratory Based on 603 and 604(2 credits each)	PR		4
6	Add on Course-Soft Skills Training		2	

Faculty of Science

Course No.: 16
Department: Physics
Implemented from: 2014-15
Detailed Syllabus:
Title: Physics Laboratory Course III (Project)(Course CodePHY349)
[Credits-]

Syllabus of Course

"Physics Laboratory Course III (Project)"

1. The student does work equivalent to about twenty laboratory experiments throughout both the semesters in the third year.
2. One bears in mind that the project work is a practical course and it is intended to develop a set of skills pertaining to the laboratory work apart from the cognition of students. Therefore, the guides should not permit projects that involve no contribution on part of student.
3. The project must have a clear and strong link with the principles of basic physics and/or their applications.

4. The theme chosen should be such that it promotes better understanding of physics concepts and brings out the creativity in the students.
5. The evaluation of the project work must give due credit to the amount of the project work actually done by a student, skills shown by the student, understanding of the physics concepts involved and thepresentation of the final report at the time of viva voce.
6. The viva voce should be conducted at least for thirty minutes per student. Extra care must be taken in the evaluation of projects done in a pair or group. Delegation of the work done by individuals must be sought from the students in such cases.
7. Any ready-made material used in the report (such as downloaded pages from the web) must be clearly referred to and acknowledged.
8. Time schedule for project work:
    a. Allotment of Internal guide by 30th July
    b. Submission of synopsis by 14th August
    c. Project work revision – every week
    d. First draft by 15th February
    e. Final report submission by 5th March.
9. Any non-adherence to this norm should attract a penalty by way of deduction in the marks awarded to a student. It is recommended that the College will provide consumables/contingencies for every project, to the tune of Rs. 500/- each. It is also recommended that a teacher will look after 4 projects atone time.

Course No.: 17
Department: Physics
Implemented from: 2020-21
Detailed Syllabus:
Title: Project (Course Code – PHCP-245)
[Credits-4]

Syllabus of Course

"Project"

Subject Name	Year	Semester	Course Type	Course Code	Course Name	Credit
		I	Core Compulsory Theory Paper	PHCT-111	Mathematical Methods in Physics	4
				PHCT-112	Classical Mechanics	4
				PHCT-113	Quantum Mechanics	4
			Choice Based Optional Paper	PHOT-114	Electronics	4
			Core Compulsory Practical Paper	PHCP-115	Physics Laboratory – I (Electronics)	4

Physics	1	II	Core Compulsory Theory Paper	PHCT-121	Electrodynamics	4
				PHCT-122	Solid State Physics	4
				PHCT-123	Statistical Mechanics	4
			Choice Based Optional Paper	PHOT-124	Atoms and Molecules	4
			Core Compulsory Practical Paper	PHCP-125	Physics Laboratory - II	4
	2	III	Core Compulsory Theory Paper	PHCT-231	Physics of Semiconductor Devices	4
				PHCT-232	Laser-Fundamentals and Applications	4
				PHCT-233	Experimental Techniques in Physics - I	4
			Choice Based Optional Paper	PHOP-234	*Elective - I	4
			Core Compulsory Practical Paper	PHCP-235	Physics Laboratory - III	4
		IV	Core Compulsory Theory Paper	PHCT-241	Nuclear Physics	4
				PHCT-242	Materials Science	4
				PHCT-243	Experimental Techniques in Physics - II	4
			Choice Based Optional Paper	PHOP-244	*Elective - II	4
			Core Compulsory Practical Paper	PHCP-245	Project	4

Course No.: 18
Department: Chemistry
Implemented from: 2020-21
Detailed Syllabus:
Title: Practical Chemistry-III (Course Code – CH303)
[Credits-2]

Syllabus of Course

"Practical Chemistry-III"

CH-303: Practical Chemistry-III [2 credit, 72* L]

* 72 L distributed as 58 L for performing practicals and 14 L for internal evaluation.

For practicals, see the manual prepared by BOS of Chemistry. The examination will be held according to this manual.

Instructions

1. **Use molar concentrations for volumetric /estimations/synthesis experiments.**
2. **Use optimum concentrations and volumes**
3. **Two burette method should be used for volumetric analysis (Homogeneous mixtures)**
4. **Use of Microscale technique is recommended wherever possible**

A. Chemical Kinetics: (Any Three)

1. To Study the Acid catalysed hydrolysis of an ester (methyl Acetate) and determine the rate constant (k). (first order reaction)
2. To study the kinetics of saponification reaction between sodium hydroxide and ethyl acetate.
3. To compare the relative strength of HCl and H_2SO_4 or HNO_3 by studying the kinetics of hydrolysis of methyl acetate.
4. Energy of activation of the reaction between $K_2S_2O_8$ and KI with unequal initial concentration.

   OR

4. To determine the order of the reaction with respect to $K_2S_2O_8$ by fractional life method following the kinetics of per sulphate-iodide reaction.

References:

i) Systematic experimental physical chemistry, S. W. Rajbhoj, T. K. Chondekar, Anjali publication.

ii) Practical Physical Chemistry, Vishwanathan and Raghwan , Viva book.

iii) Practical Chemistry, O. P. Pandey, D. N. Bajpai Dr. S. Giri, S Chand Publication

iv) Experiments in Chemistry, D. V. Jahagirdar, Himalaya Publication.

B. Inorganic quantitative / qualitative analysis (Any two)

1. Estimation of Fe(III) from given solution by converting it to Fe(II) using Zn metal and then by titrating with standard solution of $K_2Cr_2O_7$-A Green Approach (Ref.-1,3).

3. Determination of Hardness of water from given sample by complexometric titration (Using E.D.T.A.) method and total dissolve solids by conductometry. Express your results as average ± standard deviation. (***Standardization of Na_2EDTA must be performed with standard Zn(II) solution***)

Reference:

1. Vogel's Textbook Quantitative Chemical Analysis, 3rd and 5th Ed.

2. Experiments in chemistry, D. V. Jahagirdar, Himalaya Publication.

Examination Pattern: At the time of examination student will have to perform one experiment. In case of organic qualitative analysis, after separation of binary mixture any one component has to be analysed according to OQA scheme. Distribution of 35 marks: 30 marks for experimental performance and 5 mark for oral.

To cope up with NACC criterion and to motivate and inculcate research culture among the students, interested students can be assigned mini-scale project. Project should be based either on applications of chemistry in day to day life or application or novel / applied synthesis / demonstrating principles of chemistry. The project work is equivalent to three experiments. ***Student performing project can be exempted from 3 experiments from two semester. (*from three different sections of two semester) and project will be evaluated by external examiner. Project being choice based activity; student will not get any exemption in external examination***. Systematic project report (Name page, certificate, introduction/theory, importance of project, learning outcome, requirements, safety precautions, procedure, observations, calculations, results and conclusions) be submitted separately in binding form duly certified by mentor teacher and HOD.

Illustrative list of some projects is given below for your perusal.

1. Synthesis of soap from different types of oils with respect to i) percent yield ii cost of obtaining 50 g soap (students will learn saponification or alkaline hydrolysis of oils – a chemical reaction for the synthesis of day to day life product, which oil is better for soap making).
2. Synthesis of biodegradable plastic (Principles demonstrated: Chemical reactions for mores safe products and to mitigate environmental pollution).
3. Synthesis of azo dyes and effect substituents of benzene ring on colour of azo dye (Principle demonstrated -Inductive effect a visible demonstration, strategy to charge the colour of dye, chemical reactions for industries).

Course No.: 19
Department: Chemistry
Implemented from: 2020-21
Detailed Syllabus:
Title: Practical-III (Course Code – CBOP-5, CHO-453)
[Credits-2]

Syllabus of Course

"Practical-III"

CBOP-5, CHO-453: Practical-III: Select ANY TWO Section I, II and III [96 L + 24 T]

Section-I: Ternary Mixture Separation [48 L + 12 T]

Separation of minimum 12 mixtures containing three components. The mixtures should also involve separation of nitrophenols, amino acids, low boiling and water soluble and insoluble compounds solids and liquids with **multifunctional groups**. The mixture separation should be carried out on micro-scale using ether or water.

The students should be able to

1. Understand and employ concept of type determination and separation
2. Meticulously record physical constants
3. Perform micro scale chemical elemental analysis
4. Perform qualitative estimation of functional groups
5. Recrystallize /distill the separated compounds
6. Extend these skills to organic synthesis

Section-II: Carbohydrates Synthesis and Isolation Natural Products [48 L + 12 T]

Unit I: Carbohydrate Synthesis (Any 3)

1) Synthesis and structural determination of α- and β-D-glucose penta- acetate.
2) Selective deacylation of α- and β-D-glucose penta-acetate.
3) Benzoylation of D-glucose.to D-glucose penta-benzoate.
4) Selective debenzoylation of D-glucose penta-benzoate
5) Synthesis 1,2:5,6-di-O-isopropylene-D-glucofuranose.
6) Synthesis of 1,2: 5,6 – di-O-isopropylene-3-O-benzyl –D-glucofuranose.

Note:

Carbohydrate (sugar molecules) are highly soluble in water, to derivatives the sugar molecules require special practical skill in order to get product in hand.

i) To understand the meaning of dry condition in reaction.
ii) How to prepare dry solvents.
iii) Workup of reaction in minimum quantity of water.
iv) To acquire skill in handling of carbohydrates reaction.

Unit II: Isolation of pigments from the natural products (Any 3)

1. Orange Marigold
2. Rose
3. Sunflower
4. Hibiscus
5. Any colored flowers/fruits available in the local area **(only one is allowed).**

Note: Students should be able to collect reasonable quantities of color pigments to do the characterization (Physical Constant, Elemental analysis functional group test etc) and should also form the appropriate derivative. They are encouraged to use these pigments for developing food grade natural colors from lesser known plant sources.

Unit III: Isolation of essential oils from the natural products (Any 3)

1. Ginger
2. Lemongrass
3. Garlic
4. Ajwain/ajowan/Trachyspermum ammi
5. Vekhand (achourus calamus) root

6. Any natural products available in the local area **(only one is allowed)**

Note: Students should be able to collect a reasonable quantities of essential oils to do the characterization(Physical Constant, Density, Elemental analysis functional group test) Should form the appropriate derivative. They are encouraged to use these essential oils for the development of the products like soap, perfumes etc.

Unit IV: Isolation of medicinally important component from the natural products (Any 3)

1. Nimbin from Neem leave
2. Amyrin from Apati/Apta bark
3. Eujenol from Tulsi leaves
4. D-Galacturonic Acid from Jeshtamadh
5. Piper from Betel leaf
6. Any medicinally important plants available in the local area **(only one is allowed)**

At least one natural product should be isolated by using column chromatographic techniques (Use micro columns to avoid excess use of solvents)

Note: Students should be able to collect a reasonable quantities natural products to do the characterization (Physical Constant, solubility, Elemental analysis functional group test etc) and should also form the appropriate derivative. They are encouraged to study novel medicinal plants from their local area.

References for Carbohydrates:

1. Essentials of Carbohydrate and Chemistry and Biology: Thisbe K. Lindhorst, WILEY-VCH, 2000.
2. Kawanata , K. P. R. Tretrahedron Lett. 1986, 27, 3415.
3. Bessodes, M., Shamszar, J. Antonakies, K., Synthesis, 1988, 560.

Section-III: Project [48 L + 12 T]

(Ref-3: 1, 8, 17-24, 31-36, 42-75, 105-109, 119-124, 142-143, 149-160, 171-177, 222-226, 264-280, 310-317, Supplementary reference-4)

Reference

1. Polymer analysis, Barbara H. Stuart, Analytical Techniques in the Sciences (AnTS), John Wiley and Sons Ltd.
2. Analytical Methods forPolymer CharacterizationRui Yang, CRC PressTaylor& Francis Group, 2018
3. Introduction to Surfactant Analysis, Edited by D. C. Cullum, Springer-Science + Business Media, B.V, 1994.
4. Handbook of Detergents, Editor-In-ChiefUri Zoller, Part-C, Heinrich Waldhoff, Rüdiger Spilker, Marcel Dekker, New York, 2005.

Learning Objective - At the end of course students should able to-

1. Define / understand various terms in soil analysis, pesticide residue analysis, detergent analysis and polymer analysis.
2. Explain / describe techniques / methods of soil analysis, pesticide residue analysis, detergent analysis and polymer analysis.
3. To describe basic principles techniques / methodssoil analysis, pesticide residue analysis, detergent analysis and polymer analysis.
4. Explain importance of soil analysis, pesticide residue analysis, detergent analysis and polymer analysis.
5. Choose suitable method / techniques to characterize quality of soli polymer and detergent.
6. Describe / explain results of analysis soil, pesticide residue, detergent and polymer.
7. Solve numerical problems on analysis soil, pesticide residue, detergent and polymer.
8. Draw conclusion regarding soil, detergent and polymer quality from analytical results.

Course No.: 20
Department: Chemistry
Implemented from: 2020-21
Detailed Syllabus:
Title: Practical-III (Course Code – CBOP-5, CHA-493)
[Credits-4]

Syllabus of Course

"Practical-III"

CBOP-5, CHA-493: Practical III **CHA-493-A: Optional Analytical Chemistry Practical** **OR** **CHA-493-B: Project**	
CBOP-5, CHA-493: A) Optional Analytical Chemistry Practical [96 L +24 T]	
Section-I: Any 12 experiments	
1	**Table Work:** Characterization of organic compounds by VU-Visible, IR and NMR spectroscopy (any two compounds, Example- paracetamol and aspirin - actual spectra must be given for analysis)
Analytical Chemistry for Self-Employment: (any five experiments from 2 to 9): Preparation / Isolations Analytical Standards or reference material for analytical laboratories **(Imp. Note:** all these materials can be used for further experiments).	
2-3	Solvent extraction: Isolation and purification caffeine. Impurity present if any by TLC. Indian Pharmacopeia Tests: identification tests, MP, loss on drying, Total heavy metal and assay. (Spectral characterization may be performed) (Ref-5)
4-5	Synthesis of Paracetamol (or any other medicinal compound) by green chemistry route and recrystallization. Test as per IP: TLC, MP, Identification tests, limit test for chloride, LOD and assay. (spectral characterization may be performed) (Ref-5 and 4)

Marczenko and M. Balcerzak, Analytical Spectroscopy Library – 10, Elsevier
3. Lab Manual in biochemistry, immunology and biotechnology, Arti Nigam, Archana Ayyagari, Tat-McGraw-Hill Publication.
4. Indian Pharmacopeia, 7th Ed.
5. Green Chemistry Synthesis, Pawia
6. An introduction to Practical Bichemistry, David T. Plummer, Tata McGraw-Hill Publishing Company Ltd.
7. Polymer Synthesis and Characterization, A Laboratory Manual, Stanely R Sandler, Wolf Karo, Jo-Anne Bonesteel, Eli M Pearce, Published by Academic press (Elsevier).
8. https://pubs.acs.org/doi/pdf/10.1021/ie50163a037, *Org. Synth.* **1922**, *2*, 47DOI: 10.15227/orgsyn.002.0047
9. General Chemistry Experiments by Anil J. Elias

Learning Objective / Course Outcomes- At the end of course students should able to-

1. Maintain proper record of analytical data in notebook. Observer personal safety in laboratory and able handle all chemicals, instruments, etc safely in laboratory.
2. Define / understand various terms involved practical methods of quantitative analysis.
2. To analyse organic and inorganic materials using appropriate chemical / instrumental methods
3. Explain / describe basic principles of chemical / instrumental methods used for analysis. Able to handle particular instrument according to SOP.
4. Perform analysis of sample with described procedure. Able to handle analytical instruments.
5. Apply / select particular method / instrumental parameters for analysis of given sample.
6. Maintain appropriate reaction conditions as described in procedures.
7. To perform i) selective analysis of particular component from sample. ii) Analysis at trace level from sample.
8. To conclude the results able to take the decision regarding quality of sample.
9. To perform calculations and interpret the results.

CBOP-5, CHA-493: B) Project [96 L + 24 T]

a) At least 1/3 students of total strength at M. Sc.-II must be allotted projects

b) Each student will perform project separately. Working hours are same as practical of CHA-493(A) project length should be sufficient and should be equivalent to 24 practical. ***Project report must be written systematically and presented in bound form: The project will consist of Title page, certificate, content, summary of project (2-3 page) followed by introduction (4 to 7 pages), literature survey (4-7) pages (recently published about 30 papers must be included), experimental techniques, results, discussion, conclusions, Appendix consisting of 1) references, 2) standard spectra / data if any and 3) safety precautions.*** If student is performing project in another institute, for such a student, internal mentor must be allotted and he will be responsible for internal assessment of a student. In this case student has to obtain certificate from both external and internal mentor. ***Systematic record of attendance of project students must be maintained by a mentor.*** Project will be evaluated jointly by three examiners and there will not be any practical performance during the examination. Typically, student has to present his practical work and discuss results and conclusions in details (20 min.) which will be

Course No.: 21
Department: Computer Science
Implemented from: 2020-21
Detailed Syllabus:
Title: Industrial Training/Institutional Project (Course code-CSUIT241)
[Credits-20]

Syllabus of Course

"Industrial Training/Institutional Project"

The Industrial Training /Institutional project is equivalent to 5 theory courses of 4 credits each. Marks per 4 credits = 100. The total weightage for Industrial/Institutional training is 500 marks.

Workload:

1. One mentor to be assigned for 5 students.
2. 2 hours /week to be allotted for 5 students

Guidelines:

- Each student must individually complete **minimum 5 months'** full time Industrial training / Institutional project in the 4^{th} semester.
- College should assign a student mentor to every student. The mentor will monitor the progress of the student throughout the semester for continuous assessment.
- Student should submit a valid offer letter and synopsis within two weeks of starting the internship.
- There will be continuous assessment of the work done by the student during the internship period.
- Continuous assessment guidelines:
  1. Student should submit a weekly report in the college to the mentor.
  2. The report should contain the following details: Name of student, project title, company name, company mentor, daily activities and results/output, proposed work for next week.
  3. The weekly report should be duly signed by the student and company mentor/ institute guide (CM).
  4. Student Mentor should maintain weekly attendance record for every student.
  5. Two presentations should be conducted for each student (first presentation after

first month and second presentation after 3rd month)

6. Student Mentor should take feedback from the Company mentor regarding overall performance of the student.

- At the end of the internship period, each student should prepare a report which should conform to international academic standards.

- The report should follow the style in academic journals and books, with contents such as: abstract, background, aim, design and implementation, testing, conclusion and full references, Tables and figures should be numbered and referenced to in the report.

Examination and Evaluation guidelines

- The project done during internship period will be evaluated in the following manner: **IA - 150 marks + UE-350 marks.**
- The final presentation and documentation will be evaluated by three examiners:
  1. Student mentor (appointed by respective college)
  2. External examiner (appointed by the University)
  3. IT expert (appointed by respective college)

IA (150 marks)				
Weekly Attendance	Weekly Reports	First Presentation	Second Presentation	Documentation
20	40	20	40	30

UE (350 marks)		
Mentor	IT Expert	External Examiner
100	125	125

Recommended Documentation contents:

Title page

Company / Institute certificate Internship

completion certificate **Abstract**

Introduction

- -motivation

- -problem statement
- -purpose/objective and goals
- -literature survey
- -project scope and limitations

System analysis

- -Comparative study of Existing systems
- scope and limitations of existing systems
- -project perspective, features
- stakeholders
- -Requirement analysis - Functional requirements, performance requirements, security requirements etc.

System Design

- Design constraints
- System Model: UML diagrams
- Data Model
- -User interfaces

Implementation details

-Software/hardware specifications, etc.

Reports

Testing

Test Plan, Black Box Testing or Data Validation Test Cases, White Box Testing or Functional Validation Test cases and results

Conclusion and Recommendations

Future Scope

Bibliography and References

Course No.: 22
Department: Computer Science
Implemented from: 2020-21
Detailed Syllabus:
Title: Project (Course code-CSDT234C)
[Credits-20]

Syllabus of Course

"Project"

Guidelines:

- Students should work in a team of minimum 2 and maximum 3 students.
- Students can choose a project topic without any restriction on technology or domain.
- The student group will work independently throughout the project work including: problem identification, information searching, literature study, design and analysis, implementation, testing, and the final reporting.
- Project guide must conduct project presentations (minimum 2) to monitor the progress of the project groups.
- At the end of the project, the group should prepare a report which should conform to international academic standards. The report should follow the style in academic journals and books, with clear elements such as: abstract, background, aim, design and implementation, testing, conclusion and full references, Tables and figures should be numbered and referenced to in the report.
- The final project presentation with demonstration (UE) will be evaluated by the project guide (appointed by the college) and one external examiner (appointed by the University).

Evaluation guidelines:

IA (15 marks)			**UE (35 marks)**		
First presentation	Second presentation	Documentation	Project Logic/Presentation	Documentation	Viva
5	5	5	20	5	10

Recommended Documentation contents:

Abstract

Introduction

- motivation
- problem statement
- purpose/objective and goals
- literature survey
- project scope and limitations

System analysis

- Existing systems
- scope and limitations of existing systems
- -project perspective, features
- stakeholders
- Requirement analysis
- Functional requirements, performance requirements, security requirements etc.

System Design

- Design constraints
- System Model: UML diagrams
- Data Model
- User interfaces

Implementation details

-Software/hardware specifications

Outputs and Reports Testing

Test Plan, Black Box Testing or Data Validation Test Cases, White Box Testing or Functional Validation Test cases and results

Conclusion and Recommendations Future Scope

Bibliography and References

Course No.: 23
Department: B.Voc
Implemented from: 2018-19
Detailed Syllabus:
Title: Practical –IV (On Job Training) (Course code-REP-2-5)
[Credits-12]

Syllabus of Course

"Practical –IV (On Job Training)"

Course Code: REP-2-5

Course Title: Practical –IV (On Job Training)

Trainer Prerequisites for Job role:

Solar PV Business Development Executive (**SGJ/Q0107)**

Solar PV Structural Design Engineer (**SGJ/Q0109)**

Solar PV O&M Engineer (**SGJ/Q0117)**

Solar Off Grid Entrepreneur (**SGJ/Q0118)**

Solar PV Manufacturing Technician (**SGJ/Q0119)**

Solar Lighting Technician [Options: Home Lighting System/ Street Lights] **(SGJ/Q0201)**

Solar Thermal Engineer – Industrial Process Heat [Option: Consultant**] (SGJ/Q0603)**

Course No.: 24
Department: B.Voc
Implemented from: 2019-20
Detailed Syllabus:
Title: Practical –VIII (On Job Training) (Course code-REP-4-5)
[Credits-12]

Syllabus of Course

"Practical –VIII (On Job Training)"

Course Code: REP-4-5 Practical – VIII

Course Title: On Job Training

Work Report, Viva, Presentation, Industry Certificate.

Solar PV Installer Training Course (Suryamitra).

Course No.: 25
Department: B.Voc
Implemented from: 2020-21
Detailed Syllabus:
Title: Practical –X (On Job Training) (Course code-REP-6-5)
[Credits- 12]

Syllabus of Course

"Practical –X (On Job Training)"

Course Code: REP-6-5

Course Title: Practical –X (On Job Training)

Industrial Project: The Project work must be carried out in an industry/ R&D organization for a period of 8/10 weeks. Students should follow the SPPU and industry guidelines to earn credits in their industrial project work and report writing.

Date: 31/01/2022 **IQAC Coordinator** **Principal**