Admission Notice for Skill Course

Admission Link https://forms.gle/TqFC8QAQZgr19cpUA

Jain Minority Institute

Accredited with NAAC Grade 'B'

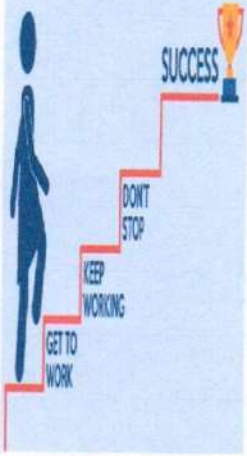
Shri Amolak Jain Vidya Prasarak Mandal's

Smt. S. K. Gandhi Arts, Amolak Science & P.H. Gandhi Commerce College Kada,

Tal. Ashti, Dist. Beed (MS) Pin- 414202

UGC Approved

Skill Based Advanced Diploma Courses in



1) Automobile 2) Electronics
3) Office Automation
4) Organic Farming and Vermicomposting

Limited Seats

The Principal, Dr. N. S. Rathi, Gandhi College Kada

Dr. J. M. Bhandari (Vice. Princi.)- 9421339851

Dr. Y. B. Rasal (Nodal Officer)- 9421530855

Mr. A P. Katariya (Coordinator)- 8999732931

Dr. S. Magar (Coordinator)- 7588875577

Dr. V. V. Vaidya (Coordinator)- 8999732931

Dr. S. Hase (Coordinator)- 9762830423

Kada, Tal.Ashti, Dist.Beed

Principal

Shri Amolak Jain Vidya Prasarak Mandal's
Shrimati Shantabai Kantilal Gandhi
Arts, Amolak Science, Panalal Hiralal
Gandhi Commerce College
Kada, Tal.Ashti, Dist.Beed

॥ पढमं नाणं तओ दया ॥

श्री. अमोलक जैन विद्या प्रसारक मंडळ कडा, संचलित

श्रीमती. शांताबाई कांतीलाल गांधी कला, अमोलक विज्ञान, पनालाल हिरालाल गांधी वाणिज्य महाविद्यालय

कडा, ता. आष्टी, जि. बीड. पिन ४१४ २०२ (०२४४१-२३९३७८)

* बॅंक समितीतर्फे "बी" दर्जा प्राप्त

E-mail: gandhicollegekada_1996@yahoo.co.in | Web.: www.gandhicollegekada.org

स्थापना : १९९६

जैन अल्पसंख्यांक संस्था

प्राचार्य – डॉ. एन.एस.राठी
(एम.कॉम,एम.फील.,पीएच.डी.)

Admission Process for Skill Course

- In response to the advertisement for registration, (in newspapers or else), interested students will have to register.
- Duly filled Application Form (available on College website) should be filled in prescribed format and submitted to the College office.
- Admission will be done on the basis of performance of students
- Candidates will have to go through Online/Offline registration process.
- Original and/or Attested copies of following documents are essential at the time of admission of Advanced Diploma Courses.
  1. SSC (High School) Board Certificate as proof of date of birth,
  2. Mark sheet of SSC and HSC,
  3. Transfer Certificate of HSC,
  4. Caste Certificate and Validity Certificate (if applicable),
- Students who come under the jurisdiction of other University should submit Migration Certificate in original.

Principal
Shri Amolak Jain Vidya Prasarak Mandal's
Shrimati Shantabai Kantilal Gandhi
Arts, Amolak Science, Panalal Hiralal
Gandhi Commerce College
Kada, Tal.Ashti, Dist.Beed

Department of English

S.K.Gandhi College, Kada, Tal. Ashti, Dist. Beed

Soft Skill Development Certificate Course

Course Outcomes

The Dept. of English aims for the holistic development of the students by keeping pace with new trends in education and job opportunities. The remarkable achievement of the dept. is in terms of successful graduates who are now serving the society in various central, state and private organizations.

In order to develop the Communication Skills in English language for the students, the Department of English organizes Soft Skill Development Certificate Course. The students are taught vocabulary building, word formation, sentence construction, grammar, dialogues and debate, interview techniques etc. The course also arranges guest lecture for the students. The students are benefited from audio-visual aids and ppt's. They are also provided with photocopies of different pictures with conversation and online YouTube videos. The students practice communication skills in the class.

Shri Amolak Jain Vidya Prasarak Mandal's Shrimati Shantabai Kantilal Gandhi Arts, Amolak Science, Panalal Hiralal Gandhi Commerce College
Kada, Tal.Ashti, Dist.Beed

(Gawali N.T.)
HOD, English

Principal
Shri Amolak Jain Vidya Prasarak Mandal's
Shrimati Shantabai Kantilal Gandhi
Arts, Amolak Science, Panalal Hiralal
Gandhi Commerce College
Kada, Tal.Ashti, Dist.Beed

Shri. Amolak Jain Vidya Prasarak Mandal's

Smt. S. K. Gandhi Arts, Amolak Science College, Kada, Tal. Ashti, Dist. Beed

Department of English

Syllabus of Soft Skill Development Certificate Course

Sr. no	Topic name	No. of days (30)
1	Importance of English language, Importance of Skills i.e. LSRW, Importance of Vocabulary & Dictionary	01
2	Diagnostic Test	01
3	Part of Speech: Examples with sentences	02
4	Cases: 1) Nominative 2) Objective 3) Possessive	01
5	Phrases, prefix, suffix, singular, plural, synonyms, antonyms, homonyms (same pronunciation but different meaning) Ex. rich-reach, parts of body, vegetables, ornaments, occupation, birds, animals-three magical words: please, sorry, thank you, word games etc.	02
6	Articles	01
7	Written test and guest lecture	01
8	Sentence construction- ex. S+V	01
9	Types of sentences-ex. Assertive	02
10	Tenses	02
11	Change the Voice	01
12	Direct –Indirect Speech	01
13	Degree	01
14	Proverbs, idioms, good thoughts, universal truths, slogans etc..	01
15	Example of sentences for translation from Marathi to English and vice versa, arrange words in correct order	01
16	Write three sentences on given word	01
17	Written test and audio CD of communication/guest lecture	01
18	Paragraph writing, essay writing, letter writing-ex.	01
19	Dialogue writing and speaking -examples	01
20	Introducing yourself, thanking, greeting, invitation, telephone conversation, apologizing	02
21	Conversation at the post office, bank, railway station, college office etc.	02
22	Views about their ambition in life	01
23	Role playing, discussion on current topics	01
24	Mock Interview, Oral Test	01

Shri Amolak Jain Vidya Prasarak Mandal's Shrimati Shantabai Kantilal Gandhi Arts, Amolak Science, Panalal Hiralal Gandhi Commerce College ★ Kada, Tal.Ashti, Dist.Beed

Principal
Shri Amolak Jain Vidya Prasarak Mandal's
Shrimati Shantabai Kantilal Gandhi
Arts, Amolak Science, Panalal Hiralal
Gandhi Commerce College
Kada, Tal.Ashti, Dist.Beed

Shri. Amolak Jain Vidya Prasarak Mandal Kada's

Smt. S.K. Gandhi Art's, Amolak Science & P.H. Gandhi Commerce College,

Kada, Tq. Ashti, Dist. Beed, PIN- 414202

Date- 5th Dec. 2019

Notice

All the students are hereby informed that the Department of English is organizing a Soft Skill Development Certificate Course from 13th Dec. 2019 to 21st Jan 2020 ----------. So, the students are informed to register their names to the English Department.

HOD, English

Course Co-ordinator/Convenor

Principal

Principal
S.A.J.V.P.M.Kada's
Smt.S.K.Gandhi Arts, Amolak Science
P.H.Gandhi Commerce College, Kada

Name of the Course

Fashion Designing and Dress Making

Duration of the Course

One Year

Assessment Procedure

As per Dr. B. A.M. U. Guidelines

Outcomes

1) To enable students for Self – Employment

2) To enhance the skills among the students.

3) To promote entrepreneurship attitude.

4) To empower women through skill development.

Shri Amolak Jain Vidya Prasarak Mandal's Shrimati Shantabai Kantilal Gandhi Arts, Amolak Science, Panalal Hiralal Gandhi Commerce College ★ Kada, Tal.Ashti, Dist.Beed

Principal
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Shrimati Shantabai Kantilal Gandhi
Arts, Amolak Science, Panalal Hiralal
Gandhi Commerce College
Kada, Tal.Ashti, Dist.Beed

Dr. Babasaheb AmbedkarMarathwada UniversityAurangabad

Curriculum of

Advanced Diploma Course in Office Automation

Under the Faculty of Science and Technology

Effective from

2020-2021 onwords

Course Structure of Advanced Diploma in Office Automation

Paper No	Paper Title	No. of Credits	Hrs. /Week	Marks		
				Internal (CIA)	External (ESE)	Total
Semester I						
General Education Component (A)						
ADOA 101	Communication Skills – I	4	4	20	80	100
ADOA 102	Computer Fundamentals - I	4	4	20	80	100
ADOA 103	Lab - Communication Skills – I	2	4	25	25	50
ADOA 104	Lab - Computer Fundamental - I	2	4	25	25	50
Skill Development Components (B)						
ADOA 105	Computer Typing – English	3	3	15	60	75
ADOA 106	Computer Typing – Marathi	3	3	15	60	75
ADOA 107	Notepad and Paint	3	3	15	60	75
ADOA 108	Lab - Computer Typing – English	3	6	25	25	50
ADOA 109	Lab - Computer Typing – Marathi	3	6	25	25	50
ADOA 110	Lab - Notepad and Paint	3	6	25	25	50
	Total (Semester I)	30	43	210	465	675
Semester II						
General Education Component (A)						
ADOA201	Communication Skills - II	4	4	20	80	100
ADOA202	Computer Fundamentals - II	4	4	20	80	100
ADOA203	Lab - Communication Skills - II	2	4	25	25	50
ADOA204	Lab - Computer Fundamentals - II	2	4	25	25	50
Skill Development Components (B)						
ADOA205	Operating System (MS- Windows & Linux)	3	3	15	60	75
ADOA206	Google G Suite	3	3	15	60	75
ADOA207	Internet	3	3	15	60	75
ADOA208	Lab - Operating System MS-Windows Linux	3	6	25	25	50
ADOA209	Lab - Google G Suite	3	6	25	25	50
ADOA210	Lab - Internet	3	6	25	25	50
	Total (Semester II)	30	43	210	465	675
Semester III						
General Education Component (A)						
ADOA301	Industrial Ethics and Safety Management	4	4	20	80	100
ADOA302	Environment Science	4	4	20	80	100
ADOA303	Lab - Industrial Ethics and Safety Management	2	4	25	25	50
ADOA304	Lab - Environment Science	2	4	25	25	50
Skill Development Components (B)						
ADOA305	Office Application (MS-Word & Open Office Writer)	3	3	15	60	75

ADOA306	Office Application (MS- Power Point & Open Office Impress)	3	3	15	60	75
ADOA307	Network Administration	3	3	15	60	75
ADOA308	Lab - MS-Word & Open Office Writer	3	6	25	25	50
ADOA309	Lab - MS- Power Point & Impress	3	6	25	25	50
ADOA310	Lab -Network Administration	3	6	25	25	50
	Total (Semester III)	**30**	**43**	**210**	**465**	**675**
Semester IV						
General Education Component (A)						
ADOA401	Business Communication	4	4	20	80	100
ADOA402	Personality Development	4	4	20	80	100
ADOA403	Lab - Business Communication	2	4	25	25	50
ADOA404	Lab - Personality Development	2	4	25	25	50
Skill Development Components (B)						
ADOA405	Office Application (MS-Excel & Open Office Calc)	3	3	15	60	75
ADOA406	Office Application (MS-Access & Open Office Base)	3	3	15	60	75
ADOA407	Web Technologies	3	3	15	60	75
ADOA408	Lab -MS-Excel & Open Office Calc	3	6	25	25	50
ADOA409	Lab -MS-Access & Open Office Base	3	6	25	25	50
ADOA409	Lab - Web Technologies	3	6	25	25	50
	Total (Semester IV)	**30**	**43**	**210**	**465**	**675**
Grand Total (Sem. I+II+III+IV)		**120**	**172**	**840**	**1860**	**2700**

Note :The minimum percentage for passing for each course code, practical examination and ESE is 40%, failing which He/She will get F grade for that course code.

Skill Development Component

Syllabus of Advance Diploma Course in Office Automation

ADOA101 Communication Skills – I

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objectives

1. To understand techniques of effective communication.
2. To make aware about barriers to communications with ethical context.
3. To understand the process of Email communication and minutes of meeting.
4. To understand the concept and structure of report writing.
5. To develop and improve various skills like communication reading listening note making persuasive you speaking body language and gestures.

Syllabus

Unit I: Communication: Meaning, Nature, Importance and Purpose of Communication, Types of Communication, Process of Communication, Communication Network in an Organization, Strategy for Effective Communication, Verbal and Non-Verbal Communication, Barriers to Communication, Essentials of Good Communication, Communication Techniques.

Unit II: The Process of Listening, Barriers to Listening, Types of Listening, Benefits of Effective Listening.

Unit III: Spoken English in India, The Organs of Speech, Description and Articulation of English Speech Sounds, Syllables and Stress (Weak Forms, Intonation), Connected Speech, Spelling and Pronunciation, International Phonetic Alphabet Transcription of Received Pronunciation of Words as per the Oxford Advanced Learners Dictionary of H.S. Hornby.

Unit IV: Presentation Skills, Interviews, Public Speaking, Preparing the Speech, Organizing the Speech, Special Occasion Speeches.

Unit V: Written Communication

Punctuation marks, Capitals, abbreviations, Grammar - parts of speech, Tenses, Vocabulary building, CS of good communication, language of business writing

Reference Books

1 Business Communication by Urmila Rai and SM Rai

2 Communication skills for Effective Management by Dr. Anjali Ghanekar

3 Developing Communication Skills by Krishna Mohan, Mera Banerjee

Course Outcomes

After conclusion of study the students will be able to -

1 To make effective impressive communication

2 To make communication in ethical manner

3 Capable to make persuasive digital communication

4 Capable to make abstract and summaries of proposal

5 Better presentation and communication using proper body language

ADOA102 Computer Fundamentals – I

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 **Lecture – 3 Hrs/week** **Total Count – 45 / Semester**	**Internal Assessment - 15 Marks** **End Semester Examination – 60 Marks (Duration 2 Hrs.)** **Total Marks - 75**

Course Objective

1. Understand the meaning and basic components of computer system.
2. To learn generation classification and application of computers.
3. Knowledge of computer equipment, including both hardware and software.
4. To learn input devices and output devices in detail.
5. Introduce students to information, needs, use, characteristics and level of information.
6. Use software MS Word to solve basic information system problems.

Syllabus

Unit I: Knowing Computer

1.Introduction of computer
2.Basic applications of computer
3.Components of computer system : Input and output devices
4. Concept of hardware and software
5. Hardware and software
6. Concept of computing data and information
7. Concept of Internet, world wide web, popular search engines /search for content
8. Applications of IECT: e-governance, Entertainment 9.Mobile banking

Unit II : Computer Generation and Classification

1. Generation of computers
2. Classification of computers
3. Mini, super Mini, Maxi computer
4. Distributed and parallel computers

Unit III :Operating System

1.Introduction
2. Definition, need, functions
3. Types of operating system: Linux, Windows
4. The user interface : Task bar, Icons, Menu and running an application
5. Operating system simple setting : Changing system date and time, changing display properties, to add or remove a Windows component, adding and removing printers
6. File and directory management creating and renaming of files and directories

Unit IV : MS Word– Working with Documents –Opening & Saving files, Editing text documents, Inserting, Deleting, Cut, Copy, Paste, Undo, Redo, Find, Search, Replace,

Formatting page & setting Margins, Converting files to different formats, Importing & Exporting documents, Sending files to others, Using Tool bars, Ruler, Using Icons, using help.

Reference Books

1 Fundamental of information technology by Chetan Srivastava
2 Fundamental of Computer by v Rajaram
3 fundamental of programming by RK Jain
4 Microsoft Office 2016 Word Excel 1 note book volume 1 by Lalit Mali

Course Outcomes

After the completion of the course students will able to do –

1. Understand the concept of input and output devices of computer and how it works.
2. Understand the concept and structure types and design of operating system.
3. Understand the concept of data communication its model its forms and data communication channel.
4. Understand evolution of internet it's a application and its basic services.
5. Recognize when to use each of the Microsoft office program to create professional and acADOAmic document
6. Create and design Word document for general office use.

ADOA103 Lab - Communication Skills – I

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 **Lecture – 6 Hrs/Batch/week**	**Internal Assessment - 25 Marks** **End Semester Examination – 25Marks (Duration 3 Hrs.)** **Total Marks - 50**

List of Experiments

1. Listening comprehension : Listening and typing
2. Listening comprehension : listening and Sequencing of sentences
3. Reading comprehension and vocabulary : Fill in the blanks
4. Reading comprehension and vocabulary : Close exercises
5. Reading comprehension and vocabulary : Vocabulary building
6. Reading comprehension and vocabulary : Reading and answering questions
7. Speaking : Intonation and ear training
8. Speaking : Correct pronunciation and sound recognition
9. Speaking : Face to face conversation
10. Speaking : Telephone conversation

ADOA104 Lab - Computer Fundamentals – I

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 **Lecture – 6 Hrs/Batch/week**	**Internal Assessment - 25 Marks** **End Semester Examination – 25Marks (Duration3 Hrs.)** **Total Marks - 50**

List of Experiments

1. To study input and output devices of computer system
2. To study different types of software of computer system for a daily applications
3. To study and understand different types of web browsers used as a search engine and its applications
4. To study applications of IECT: e-governance, Entertainment
5. To study different generation of Computer
6. Study of difference between different operating system used in a computer system
7. Study of Computer Windows applications and accessories like Notepad, paint and wordpad
8. To create Word document and insert text and picture
9. To create Word document using references, mailing and review
10. Create one report using Microsoft Word

ADOA 105 Computer Typing – English

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 **Lecture – 3 Hrs/week** **Total Count – 45 / Semester**	**Internal Assessment - 15 Marks** **End Semester Examination – 60 Marks (Duration 2 Hrs.)** **Total Marks - 75**

Course Objectives

- To establish correct posture and fingering at the keyboard and to improve keyboard Memorization
- To learn to control and manipulate all aspects of the keyboard, including letters, figures, symbols, and all special manipulative parts
- To develop good touch stroking techniques, quick responses in reading, steady and rhythmic motions with continuity at the keyboard to ensure a steady flow of work
- To develop good proofreading abilities, detect all errors, and acquire a critical attitude towards spelling, punctuation, syllabification, and syntax

Syllabus

Lesson 1: English Typing Basics
Lesson 2: Home Row Keys
Lesson 3: Shift Key + Home Row Keys
Lesson 4: Upper Row Keys
Lesson 5 Shift Key + Upper Row Keys
Lesson 6: Simple Word Practice by Home & Upper Row Keys
Lesson 7: Bottom-Row Keys
Lesson 8: Shift Key + Bottom-Row Keys
Lesson 9: Simple Word Practice by All Rows Characters
Lesson 10: Fourth Row Number and Symbol Keys
Lesson 11: Shift Key + Fourth Row Number and Symbol Keys
Lesson 12: Paragraph
Lesson 13: Application / Letters Writing

Reference books

- Mastering Computer Typing: Learning the ABCs of the Computer Keyboard Hardcover
- Typing for Beginners: A Basic Typing Handbook Using the Self-Teaching, Learn-at-Your-Own-Speed Paperback, by Betty Owen
- Hindi Computer Typing (Paperback, Hindi, ALL AUTHORS ON BOARD)

Course Outcomes

- To enable students to operate the keyboard by touch, using correct technique
- To enable students explain and demonstrate keyboarding skills with assurance and
- Confidence

ADOA 106 Computer Typing – Marathi

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

- *To design the course and exam in such way that student will get deep understanding on typing and latest computer software's and technology which has been using in government and private organization*

Syllabus

कीबोर्ड माहिती व सराव

- पाठ क्र. 1 ` कहि श्यसा + शब्द सराव
- पाठ क्र. 2 `कहिह श्यसारा + शब्द सराव
- पाठ क्र. 3 ` कहिह .शयसारा + शब्द सराव
- पाठ क्र. 4 कळबदल अक्षरे (शिफ्ट की)
  कक क थि ि हळह हभ्ह + शब्द सराव
  श्ष्श यटय सस्स ाज्ञा ाश्रा
- पाठ क्र. 5 हजह हलह ापा ाना + शब्द सराव
- पाठ क्र. 6 कमक तिि हजह हलह
  श्खश यचय सवस ापा ाना + शब्द सराव
- पाठ क्र.7 कळबदल अक्षरे (शिफ्टकी)+शब्द सराव
  कम्क ि ि हज्ह हल्ह
  श्ट्टश श्क्ष्श यटय सळस ाचा ाञा।
- पाठ क्र. 8 हअह हइह ाउा ादा + शब्द सराव
- पाठ क्र. 9
  कगक बि ि हअह हइह
  श्ष्श यण्य सएस ाउा ादा + शब्द सराव
- पाठ क्र. 10 कळबदल अक्षरे (शिफ्ट की)
  कग्क बि ि हटह हठह
  श्ष्श यझ्य सढस ाडा ाछा + शब्द सराव
- पाठ क्र. 11 काही चिन्हे व व्यंजने
  : त्र ऋ द्य ह्र ड़ + शब्द सराव
  वर्णमाला व व्यंजने
- परिच्छेद टंकलेखन सराव

Reference Books

- *Mastering Computer Typing: Learning the ABCs of the Computer Keyboard Hardcover*

- *Typing for Beginners: A Basic Typing Handbook Using the Self-Teaching, Learn-at-Your-Own-Speed Paperback, by Betty Owen*
- *Hindi Computer Typing (Paperback, Hindi, ALL AUTHORS ON BOARD)*

Course Outcomes

- To develop in students the desire for self-improvement
- To develop students' ability to measure, evaluate and assess performances at
- production tasks and foster pride in work well done

ADOA107 Notepad and Paint

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

- To give hands on training to the students to get acquainted in working with Notepad
- To give hands on training to the students to get acquainted in working with Paint

Syllabus

Notepad – File Creation, Read, Edit lines, paragraph, word wrap, Find, Search, Copy, Cut, Paste, Select Text, Delete, Save as a file.
Paint – Draw images, Coloring, Shapes
Pedagogical method used:
3Constructivist Learning

Reference Books

- **J.Veranathan(2012);Basic of Computers, Balaji**

Course Outcomes

- Acquire practical knowledge of working with Notepad
- Acquire practical knowledge of selecting and working with menus of Notepad
- Create and edit documents using Notepad
- Acquire practical knowledge of working with Paint
- Acquire practical knowledge of selecting and working with menus of Paint
- Create and edit documents using Paint

ADOA 108 Lab - Computer Typing – English

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

Practical's of English typing will be conducted as per syllabus mention above.

ADOA 109 Lab - Computer Typing – Marathi

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

Practical's ofMarathi typing will be conducted as per syllabus mention above.

ADOA 110 Lab - Notepad and Paint

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

Practical's will be conducted as per syllabus mention above.

ADOA201 Communication Skills – II

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 **Lecture – 3 Hrs/week** **Total Count – 45 / Semester**	**Internal Assessment - 15 Marks** **End Semester Examination – 60 Marks (Duration 2 Hrs.)** **Total Marks - 75**

Course Objective

1. To understand techniques of effective communication
2. To make aware about barriers to communication with ethical context.
3. To understand the process of Email communication and minutes of meeting.
4. To understand the concept and structure of report writing 5. To develop and improve various skills like communication reading listening note making process speaking body language and gestures.

Syllabus

Unit: I Communication with media

1. written media of communication
2. letters, notices, minutes, manual, leaflets, complaints and suggestions
3. job application
4. visual media of communication
5. slide presentations, picture and photographs, poster and advertisement
6. nonverbal media of communication

Unit: II Written communication : reports

1.Types of reports, characteristics of good reports
2. essential requisites of good report writing
3.planning the reports
4. outlining issues for analysis writing the reports

Unit: II Group communication

1.Problems of group communication
2.Meeting
3. Advantages of meeting
4. Preparations of for meeting

Unit: IV Interview

1.Purpose of interviews
2. Types of Interview
3.Employment Interview
4. Candidates Preparation
5. Questions Commonly asked in Interview
6. Role of Interviewer

Reference Books

1. Business communication by Urmila Rai and SM Rai

2. Communication skills for effective Management by Dr Anjali ghanekar
3. Developing communication skills by Krishna Mohan and Mira Banerjee

Course Outcomes

After completion of study the student will be able to do -

1. To make effective and impressive communication
2. To make communication in ethical manner
3. capable to make possessive digital communication
4. Capable to make abstract and summarise a proposal.
5. Better presentation and communication using proper body language.

ADOA202 Computer Fundamentals – II

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. To learn generation classification and application of computer
2. Knowledge of computer equipment including both hardware and software
3. Learn memory and its types in detail
4. To introduce students to information its need use characteristics and level of information
5. Use of software MS Excel MS PowerPoint to solve basic information system problems.

Syllabus

Unit: I – Computer Generation, Languages

1. Generation of Computers: First to Fifth, Types of Programming Languages, Machine Languages,
2. Assembler, linker, Loader, interpreter, compiler

Unit: II Computer Memory

1.Introduction
2. Types of memory : RAM , ROM, PROM, EPROM
3. Secondary Storage Devices (FD, CD, HD, Pen drive, DVD, Tape Drive, DAT)
5.Formulas and functions : using formulas, function

Unit: III – Communications and collaborations

1.Basics of email : what is an electronic mail, email addressing, using emails
2. Opening email, account Mailbox : inbox and outbox
3. email message: create, send, reply
4. Sorting and searching emails
5. Document collaboration
6. Instant messaging and collaboration
7. Using instant messaging
8. Instant messaging providers

Reference Books

1. Fundamental of information technology buy Chetan Srivastava
2. Fundamental of Computer bi V Rajaram
3. Fundamental programming by R. K. Jain
4. Microsoft Office 2016 Word Excel one notebook volume 1 by Lali Mali

Course Outcomes

1. Understand the concept of input and output devices of computer and how it works
2. To understand the concept and structure and types of designing operating system
3. Understand the concept of data communication its more its forms and that a communication channel.

4 Understand evolution of internet its application and its basic services.
5. Recognize when to use each of the Microsoft office program to create professional and acADOAmic document.
6. Create and design a word document for general office use.

ADOA203 Lab - Communication Skills – II

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 **Lecture – 6 Hrs/Batch/week**	**Internal Assessment - 25 Marks** **End Semester Examination – 25Marks (Duration 3 Hrs.)** **Total Marks - 50**

List of Experiments

1.Listening comprehension : video 1
2. Listening competition: video 2
3. Listening comprehension : video 3
4. Reading comprehension: reading with proper pronunciation and reading part 1
5. Reading comprehension reading with proper pronunciation and reading part 2
6. Speaking CIFEL spoken English exercise volume 1
7. Speaking CIFEL spoken English exercise volume 2
8. Speaking: drilling: proper pronunciation of word
9. Speaking: drilling: proper pronunciation of sentence

ADOA204 Lab - Computer Fundamentals – II

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 **Lecture – 6 Hrs/Batch/week**	**Internal Assessment - 25 Marks** **End Semester Examination – 25Marks (Duration 3 Hrs.)** **Total Marks - 50**

List of Experiments

1. To study different elements of spreadsheets
2. To study manipulation of cells entering text number and dates creating test number and date series in Microsoft Excel
3. To study and apply different formulas and function in Microsoft Excel
4. Create one Excel sheet of result analysis of students
5. To study and apply creation in presentation in Microsoft Power Point
5. To study different types of charts, table used in Power Point presentation
6. To study presentation of slide create one presentation for college advertisement at global level
7. Create email id and send mail to friends about wishes 8. Create one loan purpose Power Point Presentation with Excel sheet

ADOA205 Operating System (MS- Windows & Linux)

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

- To give hands on training to the students to get acquainted in working with windows operating system

Syllabus

I - Introduction to Software:

- Software: Definition, classification and components of software, operating system as the main component of system software;

II - Operating System Fundamental

- Operating Systems: OS as a resource manager, Structure of OS, OS functions, Characteristics of modern OS.
- Types of O.S.: Early systems, simple batch systems, multi programmed batch systems, Time sharing system, Personal Computer systems, Parallel systems, Distributed systems, Real time systems
- OS Structures: Components of OS: Process management, Memory management, Storage management, File management, I/O management.

III- Process Management

- Concept of Process: Process State, Operation on Processes, thread.
- CPU Scheduling: Types of Schedulers, Criteria for scheduling, Scheduling Algorithms.
- Process Synchronization: Need for synchronization, Critical Section, Hardware Synchronization, Semaphores, Monitors, Problem of synchronization.
- Deadlocks: Concept of Deadlock, Deadlock Modeling, Methods for Handling Deadlock

IV - Storage Management

- Memory Management: Address Binding, Logical vs. Physical Address space, Memory Allocation, Paging, Segmentation, Segmentation and paging of Intel Pentium.
- Virtual Memory: Demand Paging, Page replacement Algorithms (FIFO, Optimal, LRU), Virtual Memory in windows Xp.
- File System Interface: Files, File Access, Directory Structure, Protection
- Implementation of File System: Allocation Methods, Free space Management

V - I/O System

- I/O System Components: I/O Devices, I/O Hardware, Application I/O interface

- Secondary Storage Structure: Disk fundamental, Disk Scheduling, Disk Management
-

Reference Books:

- "Operating System", By S. R. Sathe & Anil S. Mokhade, MacMillan Publication.

Operating Systems by Achyut S. Godbole, Atul Kahate

Course Outcomes

- Acquire practical knowledge of working with menus of Windows directory
- Acquire practical knowledge of selecting and working with folders
- Acquire practical knowledge of Recycling and restoring data

ADOA206 Google G Suite

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 **Lecture – 3 Hrs/week** **Total Count – 45 / Semester**	**Internal Assessment - 15 Marks** **End Semester Examination – 60 Marks (Duration 2 Hrs.)** **Total Marks - 75**

Course Objective

- To Setup a G Suite account and of user.
- Navigate in the Google G Suite environment

Syllabus

Chapter 1: An Intro to G Suite

- The Google Apps
- Get the Office Suite of the Future, Today

Chapter 2: Set Up Your G Suite Team Account

- What Is G Suite?
- Set Up Your G Suite Account
- Manage Your New G Suite Account
- Work Together as a Team in G Suite

Chapter 3: Import Your Team's Data into G Suite

- Migrate Your Whole Team to G Suite (Admin)
- Export All Your Google Apps Data (Anyone)
- Import Your Gmail Emails
- Import Your Google Contacts
- Import Your Google Calendars
- Import Your Google Drive files
- Automatically Back Up Your Google Data

Chapter 4: Customize G Suite and Share Everything with Your Team

- Add a Custom Footer for Your Team's Gmail Accounts (Admins)
- Email Everyone in Your Team at Once with Google Groups (Admins & Users) . . 49

Share Google Contacts with Your Entire Team

- Share Company Events with Google Calendar (Anyone)
- Share Google Drive Folders with the Whole Company (Anyone)
- Create Consistent Documents with Company-wide Docs Templates (Anyone)
- Help Your Team Work Better Together in G Suite

Chapter 5: Build a Team Intranet in Google Sites

- What Is Google Sites?
- Build Your First Google Sites Website
- Publish and Share Your Google Site

Chapter 6: Find Files, Emails, Contact Info, and More in G Suite

- Automatically Find Info with Google Cloud Search

- Find Any File with Google Drive Advanced Search
- Use Zapier to Find Google Drive Files from Anywhere

Chapter 7: G Suite Resources

- The G Suite Learning Center
- Get Certified as a G Suite Admin
- Automate G Suite
- Sign into All Your Google Accounts Together
- Find Insights from Your Google Files
- Keep Your Google Drive Organized
- Back up All Your Files
- Learn Everything about Google Sheets
- Learn how to Build an Online Store

Reference Books

- The Ultimate Guide to G Suite by The Zapier Team

Course Outcomes

- Store documents using Google Drive
- Collaborate with Google Docs, Slides, and Drawings
- Collaborate with Google Sheets and Forms
- Communicate using Google Hangouts
- Manage schedules using Google Calendar
- Collaborate using Google Sites

ADOA207 Internet

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

- To give hands on training to the students to get acquainted in working with Internet
- To give hands on training to the students to communicate using internet
- To give hands on training to the students to surf and access information from the
- internet
- To give hands on training to the students to create content in blogs

Syllabus

Open Internet Browser, Search in Google or Bing Search Engines for Websites,
Blogs,
Create and Email account,
Go to a Google group and post your comments reading a topic or
news,
Send and Receive Test emails with attachment,
Download an attached document froman email.

Reference Books

J.Veranathan(2010);All about Internet,Balaji

Course Outcomes

- Acquire practical knowledge of working with Internet
- Acquire practical knowledge to communicate in the global village
- Access information from various sources
- Create contents in blogs
- Understand and practice the ethics in using internet
- Import and Export data from other sources
- Recognize the use of internet in daily life

ADOA208 Lab - Operating System MS- Windows Linux

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

- Study of DOS Commands.
- Basic commands of Linux

ADOA209 Lab -Google G Suite

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

- Set Up Your G Suite Team Account
- Import Your Team's Data into G Suite.
- Customize G Suite and Share Everything with Your Team
- Build a Team Intranet in Google Sites
- Find Files, Emails, Contact Info, and More in G Suite

ADOA210 Lab -Internet

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

Practical's will be conducted as per syllabus mention above.

ADOA 301 Industrial Ethics and Safety Management

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. To create awareness on professional ethics and human values.
2. To create awareness on engineering ethics providing basic knowledge and about engineering ethics variety of moral issues and moral Dil name is professional id as and virtue.
3. To provide basic family detail about engineer as a responsible experimental research ethics code of ethics industrial standard.
4. To inculcate knowledge and exposure of on safety and risk, risk benefits analysis and have an idea about the collective bargaining, confidentiality, Professional Employment and little property rights.
5. To have an ADOAquate knowledge about a man sees business environment computer it takes honesty moral leADOArship sample code of conduct

Syllabus

Unit I Human Values

Morals values and ethics, integrity, work ethic, service learning, Civic virtue, respect for others, living peacefully, caring, sharing, honesty, courage, valuing time, cooperation, commitment, empathy, self confidence, character, spirituality, introduction to yoga and meditation for professional excellence and stress management.

Unit II Engineering Ethics

Senses of Engineering ethics, variety of moral issues, types of inquiry, moral dilemmas, moral autonomy, Kohelberg's theory, Gillgan's theory, consciousness and controversy model of professional roles theories about right action self interest customs and religion uses of ethical theories.

Unit III Engineering as a social experimentation

Engineering as experimentation, Engineer as a responsible experimenter, codes of ethics, a balanced outlook on law.

Unit IV Safety Responsibilities and Rights

Safety and risk, assessment of safety and risk, risk benefit, analysis and reducing risk, respect for authority, collective bargaining, confidentiality, conflicts of interest, occupational crime, professional rights and employee rights, Intellectual Property Rights, discrimination.

Unit V Global Issues

Multi-National corporations, Business Ethics, environmental ethics, computer ethics, role in technological development, Engineers as managers, Consulting Engineers, Engineers as expert, witnesses and Advisors, honesty, moral relationship, sample code of conduct.

Reference Books

1 professional ethics and human values by fbs Senthil Kumar 2per textbook on professional ethics and human values by R S Nagarajan

Course Outcomes

1. Student understand the core values that shape the ethical behavior of an engineer and expose awareness on professional ethics and human values.
2. The student will understand the basic perception of profession professional ethics various moral issues and use of ethical theories.
3. The student will understand various social issues in the Steel standard code of ethics and rule of professional ethics in engineering field.
4. The students will be aware of responsibility of an engineer for safety and risk benefit analysis professional rights and responsibilities of an engineer.
5. The students will ADOAquate acquire knowledge about various roles of engineers in variety of global issues and able to apply article principle to resolve the situation that arises in their professional lives.

ADOA 302 Environment Science

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. Creating the awareness about environmental problems among people
2. Imparting basic knowledge about the environment and its allied problems
3. Developing and attitude of concern for the environment
4. Motivating people to participate in Environment protection and environment improvement

Syllabus

Unit 1 The Multidisciplinary Nature of Environmental Studies

Definition scope and importance need for public awareness

Unit 2 Social Issues and the Environment

From unsustainable to sustainable development, urban problems related to energy, water conservation, rain water harvesting, watershed harvesting, resettlement and rehabilitation of people, its problems and concerns, environmental ethics, issues and possible solutions, climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and Holocaust, wasteland reclamation, consumerism and waste products, environmental protection act, water act, Wildlife Protection Act, forest conservation act, issues involved in enforcement of environmental, legislation public awareness,

Unit 3 Human Population and Environment

Population growth, variation among Nations, population explosion, Family Welfare programs, environment and human health, Human Rights, value education, HIV/ AIDS, women and child welfare, role of information technology in environment and human health.

Unit 4 Natural Resources

Water resources, use and over utilisation of surface and groundwater, floods, droughts, conflicts over Water Dam, benefits and problems,

Food resources- world food problems, change caused by agriculture and overgrazing effects of modern, agriculture fertilizers, pesticides problem, water logging, salinity, energy resources, growing energy needs renewable and nonrenewable energy sources, use of alternative energy sources

Land resources - land as a resource, Land Degradation, man induced landslides, soil erosion and desertification, role of an individual in conservation of natural resources, equitable use of resources for sustainable lifestyles.

Unit 5 Ecosystems

concept of an ecosystem, structure and function of an ecosystem, producers consumers and decomposers, energy flow in the ecosystem, ecological succession, food chains, food Webs and ecological pyramids, introduction, types, characteristics features structure and function of

the following ecosystem- forest ecosystem, grassland ecosystem, desert ecosystem, aquatic ecosystem.

Unit 6 Environmental Pollution

Definition, causes effects and control, measures of air pollution, water pollution, soil pollution, marine pollution, noise pollution, Thermal Pollution, nuclear hazards,

Solid waste management- cause, effects and control measures, role of an individual prevention of pollution, disaster management, floods, earthquakes, cyclones and landslides.

Reference Books

one environmental science bike why casing to environmental studies 3rd edition paperback by R Raj Gopalan

ADOA 303 Lab - Industrial Ethics and Safety Management

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. Study of yoga and meditation for professional excellence and stress management
2. Study of work and uses of ethical theories
3. Study of course of ethics
4. Study of professional roles of engineers in different sector
5. Study of professional rights of human in industry
6. Study of environmental ethics
7. Study of technological development in industry
8. Study of multinational corporation case studies
9. Industrial visit

ADOA 304 Lab - Environment Science

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. Study of rainwater harvesting 2. Study of ozone layer depletion
3. Study of population growth and its effect on environment
4. Study of role of information technology in environment and human health
5. Study of natural resources benefits and problems
6. Study of structure and function of an ecosystem
7. Study of air pollution and its effect on human and environment
8. Study of water pollution and its effect on human and environment
9. Study of soil pollution and its effects on humans and environment
10. Study of solid waste management

ADOA 305 Office Application (MS-Word & Open Office Writer)

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

- To give hands on training to the students to get acquainted in working with MSWord
- To give hands on training to the students to create and format documents using MSWord

Syllabus

OAT-32: Office Application (MS-Word & Open Office Writer) -I

Unit: I -MS Word - Working with Documents -Opening & Saving files, Editing text documents, Inserting, Deleting, Cut, Copy, Paste, Undo, Redo, Find, Search, Replace, Formatting page & setting Margins, Converting files to different formats, Importing & Exporting documents, Sending files to others, Using Tool bars, Ruler, Using Icons, using help, **Unit: II** -Formatting Documents - Setting Font styles, Font selection- style, size, color etc., Type face - Bold, Italic, Underline, Case settings, Highlighting, Special symbols, Setting Paragraph style, Alignments, Indents, Line Space, Margins, Bullets & Numbering.
Unit: III -Setting Page style - Formatting Page, Page tab, Margins, Layout settings, Paper tray, Border & Shading, Columns, Header & footer, Setting Footnotes & end notes – Shortcut Keys; Inserting manual page break, Column break and line break, Creating sections & frames, Anchoring & Wrapping, Setting Document styles, Table of Contents, Index, Page Numbering, date & Time, Author etc., Creating Master Documents, Web page.
Unit: IV -Creating Tables- Table settings, Borders, Alignments, Insertion, deletion, Merging, Splitting, Sorting, and Formula, Drawing - Inserting ClipArt's, Pictures/Files etc., Tools – Word Completion, Spell Checks, Mail merge, Templates, Creating contents for books, Creating Letter/Faxes, Creating Web pages, Using Wizards, Tracking Changes, Security, Digital Signature. Printing Documents – Shortcut keys.
Unit: V -Free Open Source Software: OPEN OFFICE - WRITER: Introduction to Open Office Suite - Selecting the application package, Working with Documents- Formatting Documents - Setting Page style- Creating Tables - Drawing- Tools - Printing Documents - Operating with MS Word documents.

Reference Books:

- Microsoft Office 2016 Step by Step Paperback by Joan Lambert (Author)
- Office 365 All-in-One for Dummies (For Dummies (Computer/Tech)) 1st Edition

Course Outcomes

- Acquire practical knowledge of working with MS-Word
- Acquire practical knowledge of selecting and working with menus of MS-Word
- Create and edit documents using Ms-Word

- Acquire practical knowledge of working with Mail Merge concept
- Acquire practical knowledge of formatting a document
- Protect Documents

ADOA 306 Office Application (MS- Power Point & Open Office Impress)

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

- To give hands on training to the students to get acquainted in working with MS PowerPoint
- To give hands on training to the students to create presentations
- To give hands on training to the students to add animations and create slideshows

Syllabus

Unit: I -MS Power point: Introduction to presentation – Opening new presentation, Different presentation templates, setting backgrounds, Selecting presentation layouts.

Unit: II -Creating a presentation – Setting Presentation style, Adding text to the Presentation. Formatting a Presentation - Adding style,

Color, gradient fills, arranging objects, Adding Header & Footer, Slide Background, Slide layout.

Unit: III -Adding Graphics to the Presentation- Inserting pictures, movies, tables etc. into presentation, Drawing Pictures using Draw. Adding Effects to the Presentation- Setting Animation & transition effect.

Printing Handouts, Generating Standalone Presentation viewer.

Unit: VI -OpenOffice-Impress - Introduction – Creating Presentation, Saving Presentation Files, Master Templates & Re-usability, Slide Transition, Making Presentation CDs, Printing Handouts – Operating

with MS Power Point files / slides.

Reference Books:

- Step by Step - Microsoft PowerPoint 2013 (Others, Paperback, Joan Lambert, Joyce Cox)
- Mastering MS Office (English, Electronic book text, Kumar Bittu)

Course Outcomes

- Acquire practical knowledge of working with MS-PowerPoint
- Acquire practical knowledge of selecting and working with menus of MS PowerPoint
- Create and edit slides
- Create animations
- Perform slideshow
- Import and Export data from other sources

ADOA 307Network Administration

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 **Lecture – 3 Hrs/week** **Total Count – 45 / Semester**	**Internal Assessment - 15 Marks** **End Semester Examination – 60 Marks (Duration 2 Hrs.)** **Total Marks - 75**

Course Objective

Students will be able

- To describe and execute network administrator duties andutilities.
- They will know how to implement server organization, user rights, user addition, maintenance of security and user accounting.
- To develop an understanding of computer networking basics.
- To develop an understanding of different components of computer networks, various protocols,modern technologies and their applications.

Syllabus

UNIT 1: AN INTRODUCTION TO COMPUTER APPLICATION

1.1 Definition of Computer
1.1.1 Basics of Computer
1.1.2 I/O devices
1.1.3 Organization of Computer
1.1.4 Software and Hardware
1.2 Getting familiar with Microsoft Office 2016
1.3 Software Installation
1.3.1 Installation of Operating System
1.3.2 Installation of Application Software
1.3.2 Installation of Anti-virus and other utility Software

UNIT 2: COMPUTER HARDWARE AND PERIPHERALS

2.1 Introduction to different parts of a PC
2.2 Inside the PC
2.2.1 Opening the PC
2.2.2 De-assemble the PC
2.2.3 Assemble the PC
2.3 BIOS Configuration
2.4 Study of Peripherals
2.4.1 Printers, Scanners
2.4.2 SMPS
2.4.3 CD ROM, Hard Disk
2.5 Diagnostic & Troubleshooting

UNIT 3: NETWORK COMPONENTS AND HARDWARE

3.1 Networking Devices

3.2 Characteristics of Cables
3.2 Copper Media
3.2.1 Co-Axial
3.2.2 Twisted Pair
3.2.3 Crimping
3.3 Optical Media
3.3.1 SMF
3.3.2 MMF
3.4 Signaling
3.4.1 Baseband
3.4.2 Broadband
3.5 Structured Cabling
3.6 Cabling and Troubleshooting

UNIT 4 NETWORK CONFIGURATION AND SETUP

4.1 IP Address
5.2.1 IP Versions
5.3 IPv4 Classes
4.2 Static and Dynamic IP Address
4.2.1 Setting IP address
4.3 Use of Ping, ipconfig and tracert commands
4.4 Installing of Servers

UNIT 5: SERVERS AND NETWORK SECURITY

5.1 Types of Servers
5.1.1 File Server
5.1.2 Print Server
5.1.3 Web Server
5.1.4 Mail Server
5.1.5 Database Server
5.1.6 FTP Server
5.1.7 DNS Server
5.1.8 DHCP Server
5.1.9 Proxy Server
5.1.10 Antivirus Server
5.2 Features of NAT
9.1.2 Advantages of NAT
9.1.3 Disadvantages of NAT
5.3 Recovery and Backup
5.4 Understanding threats
5.4.1 Internal Threats
5.4.2 External Threats
5.4.3 Security Attacks
5.5 Implementing Network Security
5.5.1 Encryption
5.5.2 Digital Signature

5.5.3 Authentication Protocol
5.5.4 Kerberos
5.5.5 Firewall

Reference Books

1. B. A. Forouzan – "Data Communications and Networking (3rd Ed.) " – TMH
2. A. S. Tanenbaum – "Computer Networks (4th Ed.)" – Pearson Education/PHI
3. W. Stallings – "Data and Computer Communications (5th Ed.)" – PHI/ Pearson Education
4. Zheng & Akhtar, Network for Computer Scientists & Engineers, OUP

Course Outcomes

- Recognize the technological trends of Computer Networking.
- Discuss the key technological components of the Network.
- Evaluate the challenges in building networks and solutions to those.

ADOA 308 Lab - MS-Word & Open Office

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

- MS word commands and practicing – text selection.
- Opening document and creating document, saving and quitting documents.
- Cursor control, moving around in document, manipulating windows using tool bars.
- Printing documents, Editing text, auto text character formatting, page formatting.
- Closing and opening files. manipulating windows using tool bars. Printing documents, Editing text, auto text character formatting, page formatting,Closing and opening files.
- Table formation, Tabs, indents. Using Interface (Menu tool bars, help). Finding and replacing text. Spell
- checking, creating bold, italic and underlines, aligning text, auto numbering/bullets.
- Coloring text, changing fonts and their sizes, paragraph setting, changing cases, spacing between words, lines and paragraphs.
- Creating master documents, data sources, merging documents, using mail merge feature for labels and envelops.
- Graphics and using templates and wizards. Hyper linking, sending through internet Inserting drawings, auto shapes, text boxes, word art, pictures such as images and clip art, coloring, shading and 3D effects. Inserting graphs.
- Operating various types of printers – dot matrix, inkjet and laser printers

ADOA 309 Lab -MS- Power Point & Impress

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

- Creating slides, designing slides, back ground, layout of slides.
- Editing text, adding/deleting aligning, making bold, italic and underlining, color text.
- Changing background colors and designs
- Creating auto shapes, drawing clip art, word art, text boxes, images, shading and 3-d Rotating text and pictures, text wrapping
- Saving, quitting and printing slides
- Inserting new slides, making animation effects
- Viewing the slides, slide transition, making sound effects
- Grouping and ungrouping the objects.

ADOA 310 Lab -- Network Administration

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 **Lecture – 6 Hrs/Batch/week**	**Internal Assessment - 25 Marks** **End Semester Examination – 25Marks (Duration 3 Hrs.)** **Total Marks - 50**

List of Experiments

1. Recognizing different Topologies
2. Recognizing different Cables and Connectors
3. Crimping
4. Check MAC address
5. Subnet Calculation
6. Static IP Addressing
7. Dynamic IP Addressing
8. Use Ping, ioconfig and Tracert
9. Connecting systems to the Switches
10. Checking Status LED on Switches
11. Checking Patch Panel
12. Verifying Digital Signature
13. Check authentication protocols
14. Check Kerberos

ADOA401 Business Communication

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. To provide an overview of perquisites or to business communication.
2. To put in use the basic mechanics of grammar.
3. To provide an outline to effective organizational communication.
4. To underline the nuances of business communication.
5. To impart the correct practice of the strategies of effective business writing.

Syllabus

Unit 1 Communication

Communication - defining process of it, communication model, objective of communication, principle of communication, importance of business communication, importance of feedback

Unit2 Channels of communication

Channels of communication- Introduction, types of communication, dimensions of communication, barriers to communication, verbal, non verbal, formal, informal communication.

Unit 3 Business Writing

Fundamental of business writing, format of business, types of business letter, enquiry letter, complaint letter, pursuaive letter, proposal, report writing.

Unit 4 Letters and Messages

Employment messages, writing resume, application letter, writing the opening paragraph, writing the closing paragraph, summarize.

Unit 5 Spoken Skills

Spoken skills, conducting presentation, oral presentation, speeches, interview, group discussion, English pronunciation, building vocabulary.

Unit 6 Listening Skills

Barriers to effective communication and ways to overcome them,
Listening - Importance of listening, types of listening, barriers to listening and overcoming them, listening situations, developing less listening skills.

Reference Books

1. Business Communication by Bovee, Courtland, John Thill and Mukesh Chaturvedi
2. Business Communication by Kaul Asha
3. Business Communication Strategies by MonipalliMathukutty
4. Communication Skills for Engineers and Scientists by Sharma Sangeeta and Vinod Sharma

Course Outcomes

1. To be familiar with the complete course outline course objective, learning outcomes, evaluation pattern and assignment.
2. To participate in an online learning environment successfully by developing the implication based on understanding of paraphrasing,deciphering instruction,interpreting guidelines, discussion board and referencing style.
3. To demonstrate his / her ability to write error free while making an optimum use of the correct business vocabulary and grammar.
4.To stimulate their critical thinking by designing and developing clean and lucid writing skills.
5. To demonstrate his verbal and nonverbal communication ability through presentations.

ADOA402 Personality Development

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. To make the students aware about the dimensions and importance of effect to personality.
2. To understand personality traits and information and vital contribution in the world of business.
3. To make the students aware about the various dynamics of personality development.

Syllabus

Unit 1 Introduction

Meaning and definition of personality, factors affecting personality development- biological, home environment and parents, School environment and teachers, peer group, sibling relationship and mass media, cultural factors, spiritual factors, public relations.

Unit 2 Personality Traits

Meaning and definition, personality traits, developing positive personality traits, attitude factors that determine attitude, benefits of positive attitude and consequences of negative attitude, steps to build positive attitude, personality habits, meaning and concepts of habit, developing effective habits, behavior and character, being proactive- creative and innovative, beginning with the end in mind putting first thing first with determination, discipline, clarity and concentration, thinking big and winning thought, action, active facing challenges, striving for success, apologizing, appreciating, accepting feedback, aiming high, enthusiasm, team-building, setting goals, zeal and passion building.

Unit 3 Pillars of Personality Development

Introspection - meaning and importance, view about introspection, self introspection skills, self assessment - meaning, importance, types and self assessment for students, self appraisal-meaning, importance, tips for self appraisal, self development- meaning, process of self development, self development techniques, use of self development, individual Development, Plan, self introduction, meaning, tips for effective self introduction, self acceptance, awareness, self-knowledge belief confidence, criticism and self examination, defining success, real or imaginary obstacles to success, factors and qualities that make person successful, concept of failure, reason for failure, person SWOT analysis and STAR analysis

Unit 4 Self Esteem

self concept- meaning, definition and development, self esteem -concept significance of self esteem, types, characteristics of people of high and low self esteem, steps for enhancing positive self esteem, Sigmund ID Ego and superego concept ego management what ego, mis management can do managing egoistic insults.

Unit 5 Personality Formation Structure

Mind mapping, competency mapping, developing interpersonal and group skill, building positive relationships, Strategies for gaining power and influence enhancing personality through effective communication, Intentional communication, intentional listening, effective speech writing and delivering and successful negotiation. Understanding body language, projecting positive body language, manners and etiquettes, proper dressing for various occasions.

Reference Books

1. Seven Habits of Highly Effective People by Stephen Covey
2. You Can Win by Shiv Khera
3. Three Basic Managerial Skills for All by Hall
4. Personality Development and Career Management by R. M. Onkar
5. Business Communications by Nirmal Singh

Course Outcomes

1. He/she can improve personality
2. Understand personality traits and information and vital contribution in the world of business.
3. Able to find various dynamics of personality development.

ADOA403 Lab - Business Communication

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 **Lecture – 6 Hrs/Batch/week**	**Internal Assessment - 25 Marks** **End Semester Examination – 25Marks (Duration 3 Hrs.)** **Total Marks - 50**

List of Experiments

1 study of factors affecting personality development
2 study of relationship and mass media, cultural
3study of benefits of positive attitude and consequences of negative attitude
4 study of team building, setting goals in organization
5. study of self development techniques
6. study of personal SWOT analysis and STAR analysis
7.study of ego management
8. study of effective communication in organization
9. study of how to writing and delivering and successful negotiation in sales department
10. visit to organization

ADOA404 Lab - Personality Development

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 **Lecture – 6 Hrs/Batch/week**	**Internal Assessment - 25 Marks** **End Semester Examination – 25Marks (Duration 3 Hrs.)** **Total Marks - 50**

List of Experiments

1. Study of importance of business communication
2. study of barriers to communication in verbal and nonverbal
3.study of different types of business letter
4. study of report writing and create one report of in any situation in industry
5. study of letters and write one application for the job interview with resume
6. study of different paragraph and write one report on it
7. study of debate
8. Study of interview technique
9. Study of barriers to effective communication
10. developing listening skills

ADOA 405 Office Application (MS-Excel & Open Office Calc)

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

- To give hands on training to the students to get acquainted in working with MSExcel
- To give hands on training to the students to analyze data using MS-Excel
- To give hands on training to the students to create charts using MS-Excel

Syllabus

Unit: I -MS Excel: Spread Sheet & its Applications, Opening Spreadsheet, Menus - main menu, Formula Editing, Formatting, Toolbars, Using Icons, Using help, Shortcuts, Spreadsheet types. Working with Spreadsheets- opening, saving files, setting Margins, converting files to different formats (importing, exporting, sending files to others), Spread sheet addressing - Rows, Columns & Cells, Referring Cells & Selecting Cells – Shortcut Keys. Entering & Deleting Data- Entering data, Cut, Copy, Paste, Undo, Redo, Filling Continuous rows, columns, Highlighting values, Find, Search & replace, Inserting Data, Insert Cells, Column, rows & sheets, Symbols, Data from external files, Frames, Clipart, Pictures, Files etc., Inserting Functions, Manual breaks, **Unit: II**-Setting Formula - finding total in a column or row, Mathematical operations (Addition, Subtraction, Multiplication, Division, Exponentiation), Using other Formulae. Formatting Spreadsheets- Labelling columns & rows, Formatting- Cell, row, column & Sheet, Category - Alignment, Font, Border & Shading, Hiding/ Locking Cells, Anchoring objects, Formatting layout for Graphics, Clipart etc., Worksheet Row & Column Headers, Sheet Name, Row height & Column width, Visibility - Row, Column, Sheet, Security, Sheet Formatting & style, Sheet background, Color etc., Borders & Shading – Shortcut keys.

Unit: III -Working with sheets – Sorting, Filtering, Validation, Consolidation, and Subtotal. Creating Charts - Drawing. Printing. Using Tools – Error checking, Spell Checks, Formula Auditing, Creating & Using Templates, Pivot Tables, Tracking Changes, Security, Customization.

Unit: IV-OpenOffice-Calc - Introduction – Introduction to Spreadsheets, Overview of a Worksheet, Creating Worksheet & Workbooks, organizing files, Managing files & workbooks, Functions & Formulas,

Working with Multiple sheets, Creating Charts & Printing Charts – Operating with MS Excel documents, which are already created and saved in MS Excel.

Reference Books:

- Microsoft Office 2007 Bible - John Walkenbach, Herb Tyson, FaitheWempen, cary N. Prague, Michael R.groh, Peter G. Aitken, and Lisa a. Bucki -Wiley India pvt. ltd.

- A Conceptual Guide to OpenOffice.org 3 - R. Gabriel Gurley- CreateSpace Independent Publishing Platform, 2008
- Microsoft Excel 2016 Step by Step Paperback

Course Outcomes

- Acquire practical knowledge of working with MS-Excel
- Acquire practical knowledge of selecting and working with menus of MS-Excel
- Create and edit spreadsheets using Ms-Excel
- Perform analysis using MS-Excel
- Create charts using Ms-Excel
- Import and Export data from other sources

ADOA406Office Application (MS-Access & Open Office Base)

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

- This course introduces the concepts of computer basics database, MS Access.

Syllabus

Unit: I -MS Access: Introduction, planning a Database, Starting Access, Access Screen, creating a New Database, Creating Tables, Working with Forms, creating queries, Finding Information in Databases, Creating Reports, Types of Reports, Printing & Print Preview – Importing data from other databases viz. MS Excel etc.

Unit: II - OpenOffice-Base – Introduction- Database Concepts – Creating a New Database, Creating Tables, Working with Forms, creating queries, Finding Information in Databases, Creating Reports, Types of Reports, Printing and Printing preview – Operating with other databases i.e. MS Access etc.

Reference Books

- How to Use Microsoft Access 2016 "A basic guide with step-by-step instructions for the complete beginner" by Thanh X. Tran
- A Conceptual Guide to OpenOffice.org 3 - R. Gabriel Gurley- CreateSpace Independent Publishing Platform, 2008

Course Outcomes

Students will be able to

- Build spreadsheets to perform calculations, display data, conduct analysis, and explore what-if scenarios.
- Design and construct databases to store, extract, and analyze scientific and real world data.
- Create scientific and technical documents incorporating equations, images, tables, and bibliographies.
- Develop technical and scientific presentations which use charts and visual aids to share data..
- Identify, access, and evaluate information to solve real world problems.

ADOA 407Web Technologies

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

The course content enables students to:

1. understand best technologies for solving web client/server problems
2. analyze and design real time web applications
3. use Java script for dynamic effects and to validate form input entry
4. Analyze to Use appropriate client-side or Server-side applications

Syllabus

UNIT – I

HTML Common tags- List, Tables, images, forms, Frames, Links and Navigation, Image Maps

CSS: Introduction, CSS Properties, Controlling Fonts, Text Formatting, Pseudo classes, Selectors,

CSS for Links, Lists, Tables.

Java Script: Learning Java script: Variables, operators, Functions, Control structures, Events, Objects, Validations.

UNIT – II

PHP Programming: Introducing PHP: Creating PHP script, Running PHP script.

Working with Variables and constants: Using variables, Using constants, Data types, Operators.

Controlling program flow: Conditional statements, Control statements, Arrays, functions.Working

With forms.

UNIT-III

AJAX: Introduction, AJAX with XML

Servlets: introduction to servlets, Life cycle of servlets, JSDK, The servlet API, the javax.servlet

package, Reading servlet parameters and initialization parameters, The javax.servlet HTTP package,

Handling Http request and responses, Using cookie, session tracking,

Introduction to JSP: The problem with servlet, the anatomy of JSP page, JSP processing, JSP application design with MVC, Tomcat server and testing tomcat, Generic dynamic content, using

scripting elements implicit JSP objects,

UNIT-IV

JSP application development: Conditional processing display values using an expression to set an
attribute, Declaring variables and methods, sharing data between JSP pages, Requests and users
passing control and data between pages, Sharing sessions and application data, memory usage considerations

Reference Books

Web programming Bai, Michael Ekedahl, CENAGE Learning , India edition.
2. An Introduction to Web Design + Programming, Paul S.Wang, India Edition

Course Outcomes

At the end of the course students are able to:

1. Choose, understand, and analyze any suitable real time web application.
2. Integrate java and server side scripting languages to develop web applications.
3. To develop and deploy real time web applications in web servers and in the cloud.
4. Extend this knowledge to .Net platforms.

ADOA 408Lab -MS-Excel & Open Office Calc

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

- Worksheet basics
- Data entry in cells, entry of numbers, text and formulae.
- Moving data in worksheet, moving around in a worksheet, selecting data ranges.
- Using interface (Tool bars, Menus), editing basics, working with workbook
- Saving and quitting, cell referencing Formatting and calculations, using auto fill, working with formulae.
- Efficient data display with data formatting
- Creating borders colouring text, bold, italic and underlining, aligning text, finding and replacing data.
- Margin setting working with ranges, setting print area and printing

ADOA 409Lab - MS-Access & Open Office Base

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

- Working with Access, files, records.
- Creating files, records, creating table with different fields such as number, text, date/time etc.
- Entering data, modifying structure, modifying data in tables, forms, reports and queries.
- Hyper linking with Excel and Word Practicing data entry in Access

ADOA 410 Lab -Web Technologies

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 **Lecture – 6 Hrs/Batch/week**	**Internal Assessment - 25 Marks** **End Semester Examination – 25Marks (Duration 3 Hrs.)** **Total Marks - 50**

List of Experiments

Experiment1: Design the following static web pages required for a Training and placement cell website.

1) Home Page 2) Login Page 3) Registration page

Experiment2: 4) Company Details Page 5) Alumni Details Page 6) Placement Staff Details Page

Experimen3: 7) Student personal Info Page 8) Student Academic Info page 9) Semester Wise

Percentage & their Aggregate page

Experiment4: Validate login page and registration page using regular expressions.

Experiment5: Apply different font styles, font families, font colors and other formatting styles to the

above static web pages.

Experiment6: Install wamp server and tomcat server, access above developed static web pages usingthese servers.

Experiment7: Write a servlet/PHP to connect to the database, Insert the details of the users who

register with the web site, whenever a new user clicks the submit button in the registration.

Experiment8: Write a JSP/PHP to connect to the database, Insert the details of the student academicinformation with student academic info page.

Principal
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Curriculum of

Advanced Diploma Course in organic farming and vermiculture

Under the Faculty of Science and Technology

Effective from

2019-2020 on words

Course Structure of Advanced Diploma in organic farming and vermiculture

Paper No	Paper Title	No. of Credits	Hrs. /Week	Marks		
				Internal (CIA)	External (ESE)	Total
Semester I						
General Education Component (A)						
OFV 101	Communication Skills – I	4	4	20	80	100
OFV 102	Computer Fundamentals - I	4	4	20	80	100
OFV 103	Lab - Communication Skills – I	2	4	25	25	50
OFV 104	Lab - Computer Fundamentals – I	2	4	25	25	50
Skill Development Components (B)						
OFV 105	**Concept of organic farming**	3	3	15	60	75
OFV 106	Introduction to vermiculture	3	3	15	60	75
OFV 107	Vermicompost technology	3	3	15	60	75
OFV 108	Lab- organic farming	3	6	25	25	50
OFV 109	Lab- vermiculture practical's	3	6	25	25	50
OFV 110	Lab- vermicompost technology practical's	3	6	25	25	50
	Total (Semester I)	30	43	210	465	675
Semester II						
General Education Component (A)						
OFV 201	Communication Skills - II	4	4	20	80	100
OFV 202	Computer Fundamentals - II	4	4	20	80	100
OFV 203	Lab - Communication Skills - II	2	4	25	25	50
OFV 204	Lab - Computer Fundamentals – II	2	4	25	25	50
Skill Development Components (B)						
OFV 205	**Plant Breeding**	3	3	15	60	75
OFV 206	**Seed Technology**	3	3	15	60	75
OFV 207	**Economic entomology**	3	3	15	60	75
OFV 208	Lab- **Plant Breeding**	3	6	25	25	50
OFV 209	Lab- **Seed Technology**	3	6	25	25	50
OFV 210	Lab- **Economic entomology**	3	6	25	25	50
	Total (Semester II)	30	43	210	465	675

Semester III						
General Education Component (A)						
OFV 301	Industrial Ethics and Safety Management	4	4	20	80	100
OFV 302	Environment Science	4	4	20	80	100
OFV 303	Lab - Industrial Ethics and Safety Management	2	4	25	25	50
OFV 304	Lab - Environment Science	2	4	25	25	50
Skill Development Components (B)						
OFV 305	Fundamentals of plant pathology	3	3	15	60	75
OFV 306	**Plant diseases**	3	3	15	60	75
OFV 307	**Cultivation practices**	3	3	15	60	75
OFV 308	Lab- plant pathology	3	6	25	25	50
OFV 309	Lab- **Plant diseases**	3	6	25	25	50
OFV 310	Lab- **Cultivation practices**	3	6	25	25	50
	Total (Semester III)	30	43	210	465	675
Semester IV						
General Education Component (A)						
OFV 401	Business Communication	4	4	20	80	100
OFV 402	Personality Development	4	4	20	80	100
OFV 403	Lab - Business Communication	2	4	25	25	50
OFV 404	Lab - Personality Development	2	4	25	25	50
Skill Development Components (B)						
OFV 405	Organic crop production practices	3	3	15	60	75
OFV 406	Organic Certification	3	3	15	60	75
OFV 407	Farm management	3	3	15	60	75
OFV 408	Lab- Organic crop production practices	3	6	25	25	50
OFV 409	Lab- Organic Certification	3	6	25	25	50
	Total (Semester IV)	30	43	210	465	675
Grand Total (Sem. I+II+III+IV)		120	172	840	1860	2700

Note: The minimum percentage for passing for each course code, practical examination and ESE is 40%, failing which He/She will get F gr OFV for that course code.

Skill Development Component

Syllabus of Advance Diploma Course in organic farming and vermiculture

OFV 101 Communication Skills – I

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objectives

1. To understand techniques of effective communication.
2. To make aware about barriers to communications with ethical context.
3. To understand the process of Email communication and minutes of meeting.
4. To understand the concept and structure of report writing.
5. To develop and improve various skills like communication reading listening note making persuasive you speaking body language and gestures.

Syllabus

Unit I: Communication: Meaning, Nature, Importance and Purpose of Communication, Types of Communication, Process of Communication, Communication Network in an Organization, Strategy for Effective Communication, Verbal and Non-Verbal Communication, Barriers to Communication, Essentials of Good Communication, Communication Techniques.

Unit II: The Process of Listening, Barriers to Listening, Types of Listening, Benefits of Effective Listening.

Unit III: Spoken English in India, The Organs of Speech, Description and Articulation of English Speech Sounds, Syllables and Stress (Weak Forms, Intonation), Connected Speech, Spelling and Pronunciation, International Phonetic Alphabet Transcription of Received Pronunciation of Words as per the Oxford Advanced Learners Dictionary of H.S. Hornby.

Unit IV: Presentation Skills, Interviews, Public Speaking, Preparing the Speech, Organizing the Speech, Special Occasion Speeches.

Reference Books

1 Business Communication by Urmila Rai and SM Rai
2 Communication skills for Effective Management by Dr. Anjali Ghanekar
3 Developing Communication Skills by Krishna Mohan, Mera Banerjee

Course Outcomes

After conclusion of study the students will be able to -

1 To make effective impressive communication
2 To make communication in ethical manner
3 Capable to make persuasive digital communication
4 Capable to make abstract and summaries of proposal
5 Better presentation and communication using proper body language

OFV102 Computer Fundamentals – I

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. Understand the meaning and basic components of computer system.
2. To learn generation classification and application of computers.
3. Knowledge of computer equipment, including both hardware and software.
4. To learn input devices and output devices in detail.
5. Introduce students to information, needs, use, characteristics and level of information.
6. Use software MS Word to solve basic information system problems.

Syllabus

Unit I: Knowing Computer

1. Introduction of computer
2. Basic applications of computer
3. Components of computer system : Input and output devices
4. Concept of hardware and software
5. Hardware and software
6. Concept of computing data and information
7. Concept of Internet, World Wide Web, popular search engines /search for content

8. Applications of IECT: e-governance, Entertainment 9.Mobile banking

Unit II: Computer Generation and Classification

1. Generation of computers

2. Classification of computers

3. Mini, super Mini, Maxi computer

4. Distributed and parallel computers

Unit III: Operating System

1. Introduction

2. Definition, need, functions

3. Types of operating system: Linux, Windows

4. The user interface: Task bar, Icons, Menu and running an application

5. Operating system simple setting: Changing system date and time, changing display properties, to add or remove a Windows component, adding and removing printers

6. File and directory management creating and renaming of files and directories

Unit IV : MS Word– Working with Documents –Opening & Saving files, Editing text documents, Inserting, Deleting, Cut, Copy, Paste, Undo, Redo, Find, Search, Replace, Formatting page & setting Margins, Converting files to different formats, Importing & Exporting documents, Sending files to others, Using Tool bars, Ruler, Using Icons, using help.

Reference Books

1 Fundamental of information technology by Chetan Srivastava

2 Fundamental of Computer by v Rajaram

3 fundamental of programming by RK Jain

4 Microsoft Office 2016 Word Excel 1 note book volume 1 by Lalit Mali

Course Outcomes

After the completion of the course students will able to do –

1. Understand the concept of input and output devices of computer and how it works.

2. Understand the concept and structure types and design of operating system.

3. Understand the concept of data communication its model its forms and data communication channel.

4. Understand evolution of internet it's a application and its basic services.

5. Recognize when to use each of the Microsoft office program to create professional and academic document

6. Create and design Word document for general office use.

OFV103 Lab - Communication Skills – I

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. Listening comprehension: Listening and typing
2. Listening comprehension: listening and Sequencing of sentences
3. Reading comprehension and vocabulary: Fill in the blanks
4. Reading comprehension and vocabulary: Close exercises
5. Reading comprehension and vocabulary: Vocabulary building
6. Reading comprehension and vocabulary: Reading and answering questions
7. Speaking: Intonation and ear training
8. Speaking: Correct pronunciation and sound recognition
9. Speaking: Face to face conversation
10. Speaking: Telephone conversation

OFV104 Lab - Computer Fundamentals – I

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. To study input and output devices of computer system
2. To study different types of software of computer system for a daily applications
3. To study and understand different types of web browsers used as a search engine and its applications
4. To study applications of IECT: e-governance, Entertainment
5. To study different generation of Computer
6. Study of difference between different operating system used in a computer system
7. Study of Computer Windows applications and accessories like Notepad, paint and wordpad
8. To create Word document and insert text and picture
9. To create Word document using references, mailing and review
10. Create one report using Microsoft Word

OFV 105

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objectives

To Understand the Role of a Organic farming
To Understand and study the Scopes and Opportunities of Organic Farming
To Study the Need of Organic Farming in India

Syllabus

Concept of organic farming

1. Introduction: Farming, organic farming, concept and development of organic farming.
2. Principles of organic farming
3. Types of organic farming
4. Biodynamic farming
5. Benefits of organic farming.
6. Need for organic farming
7. Conventional farming v/s organic farming
8. Scope of organic farming; Kerala, national and international status
9. Agencies and institutions related to organic agriculture
10. Requirements for organic farming
11. Farm components for an organic farm

Reference Books

REFEREENCES

1. Anonymous (2000) National Programme for Organic Production Containing the Standards for the Organic Products. Department of Commerce, Ministry of Commerce and Industry, Govt. of India, New Delhi.

2. Anonymous (2002) *Guidelines for Organic Farming*. Department of Agriculture and Co-operation, Ministry of Agriculture, Govt. of India, New Delhi.

3. Chadha, K.L. (2001) *Handbook of Horticulture*. ICAR Publications, New Delhi.

4. Dahama, A.K. (2005) *Organic Farming for Sustainable Agriculture*. 2nd Ed. Agrobios

(India), Jodhpur.

5. Deshmukh, A.M., Kobragade, R.M. and Dixit, P.P. (Ed.) (2007) *Handbook of biofertilizers and bio-pesticides*. Oxford Book Co., New Delhi.

6. Farooqui, A.A. and Sreeramu A. (2004) *Cultivation of Medicinal and Aromatic Crops*. Universities Press (India) Pvt. Ltd., Hyderabad.

7. Lampkin, N. and Ipswich (1990) *Organic Farming*. Farming Press. London.

8. Gaur, A.C. (1992). *Bulky Organic Manures, Recyclable Wastes and Bio-fertilizers*. FDCO New Delhi, pp. 36-51.

Course Outcomes

- ✓ To enable the students for understand the Role of a Organic farming
- ✓ Understand and study the Scopes and Opportunities of Organic Farming
- ✓ To recognize the students to Study the Need of Organic Farming in India

OFV 106

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1) Students will be able to compost in a limited space and describe the decomposing process.
2) The interested students will get the knowledge of composting,
3) Students will get the employment,
4) They can generate employments,
5) They will also turn towards organic farming,
6) Will help to maintain the environment pollution free and
7) Will get the knowledge of biodiversity of local earthworms.

Syllabus

Vermiculture

1) Concept of Vermitechnology, vermicomposting and rearing.
2) Importance of Vermicompost in Agrihorticultural practices.
3) Vermicomposting for Organic Farming -an Eco-Friendly Approach,
4) Vermicomposting for Rural Development, Waste materials: Classification, disposal techniques and their impact on environment,
5) Earthworms: Type, identification & usefulness Anaerobic (Pit) and Aerobic (Heap) Composting: techniques & their comparison
6) Vermiculturing: Techniques and importance
7) Vermicomposting techniques, standard composition of vermicompost.
8) Chapter 1. Principles of compost production
9) Chapter 2.Vermicompost production technology
10) Chapter 3.Enriched vermicompost production technology
11) Chapter 4.Vermicompost quality and marketing

Reference Books:

1. Chauhan, A. (2012) Vermitechnology, Vermiculture, Vermicompost and Earthworms: Vermiculture, Vermicomposting, Vermitechnology and Microbes, Lambert AcOFVmic Publishing, Germany.

2. Christy, M. V. (2008) Vermitechnology, 1st edition, MJP Publishers.

3. Dash, M. C. (2012) Charles Darwin's Plough Tool for Vermitechnology, I.K.. International Publishing House Pvt Ltd. New Delhi, India.

4. Kumar, A. (2005) Verms and Vermitechnology, APH Publishing

Course Outcomes:

I. Students can construct their own compost farm & thereby can get monthly income of Rs. 7000-8000. II. Students/ farmers by using vermicompost in their field can increase the crop yield.

III. Students residing in cities can produce vermicompost in small scale for garden/household plants.

IV. They can get the jobs in educational institutes as vermicompost/vermiculture technician.

V. The candidate can generate income by supplying verms, vermiwash, & vermicompost.

VI. By developing & propagating vermicompost technology he/she will directly or indirectly help to prevent environmental pollution, by using vermicompost in the field & thereby increasing crop yield he will help to solve food problems.

VII. It will lead towards organic farming & healthy food.

VIII. In today's world, recycling of garbage has become necessary in order to sustain our health and environment. So let's join for Four R's of Recycling Reduce, Reuse, Recycle, Restore i.e. certificate course in vermicompost technology

OFV107

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. To reduce the reliance on pesticides as the sole means of controlling pests;
2. To do so while maintaining or improving upon the status quo of pest management, crop health, and crop profitability;
3. Increasing yields or reducing costs of production
4. To provide pest control with minimal disruption of the environment, and reducing risk to public health;5.to provide a self supporting, sustainable approach to

Syllabus

Principles of integrated pest management

Chapter I: History and origin, definition and evolution of various related terminologies.

Chapter II: Concept and philosophy, ecological principles, economic threshold concept, and economic consideration.

Chapter III: Tools of pest management and their integration- legislative, cultural, physical and mechanical methods; pest survey and surveillance, forecasting, types of surveys including remote sensing methods, factors affecting surveys; political, social and legal implications of IPM; pest risk analysis; pesticide risk analysis; cost-benefit ratios and partial budgeting; case studies of successful IPM programmes.

Reference Books

Suggested Readings

- Dhaliwal GS & Arora R. 2003. Integrated Pest Management – Concepts and Approaches. Kalyani Publ., New Delhi.
- Dhaliwal GS, Singh R & Chhillar BS. 2006. Essentials of Agricultural Entomology. Kalyani Publ., New Delhi.

- Flint MC & Bosch RV. 1981. Introduction to Integrated Pest Management. 1st Ed., Springer, New York.
- Horowitz AR & Ishaaya I. 2004. Insect Pest Management: Field and Protected Crops. Springer, New Delhi.
- Ignacimuthu SS & Jayaraj S. 2007. Biotechnology and Insect Pest Management. Elite Publ., New Delhi.
- Metcalf RL & Luckman WH. 1982. Introduction of Insect Pest Management.
- John Wiley & Sons, New York. Pedigo RL. 2002. Entomology and Pest Management. 4th Ed. Prentice Hall, New Delhi.
- Norris RF, Caswell-Chen EP & Kogan M. 2002. Concepts in Integrated Pest Management. Prentice Hall, New Delhi.
- Subramanyam B & Hagstrum DW. 1995.
- Integrated Management of Insects in Stored Products. Marcel Dekker, New York.

Course Outcomes

- Pest survey, surveillance and methods of sampling
- Ecological management of pests
- Pest management by modifying insect development and behavior
- Pest management through innovative approaches
- Pros and cons of different IPM techniques and their integration
- Successful IPM cases

OFV 108 Lab -

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1) Understand the need of safe farming practices
2) Understand and practice the type of safe farming practices
3) Transitions to Organic Farming
4) Estimate the cost and time of Organic Farming
5) Budget estimation
6) Understand the phased approach to be taken to transition to organic farming
7) Prepare Crop portfolios – Multi crop, feasible crop
8) Prepare Yearly Plan / Crop Schedule

OFV 109 Lab -

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1) Key to identify different types of earthworms
2) Field trip- Collection of native earthworms & their identification
3) Study of Systematic position, habits and habitat & External characters of *Eisenia fetida*
4) Study of Life stages & development of *Eisenia fetida*
5) Study of Life stages & development of *Eudrilus eugeniae*
6) Comparison of morphology & life stages of *Eisenia fetida & Eudrilus eugeniae*
7) Collection of wastes & their segregation & processing
8) Bed preparation for Anaerobic & Aerobic composting, Fortnightly mixing of beds,
9) Earthworm collection & application on beds, Inspection of beds & watering,
10) Vermicompost collection, Earthworms separation, Air drying of vermicompost, sieving & storing, Vermi-wash production techniques, standard composition of vermiwash, Field visit with demonstrations

OFV 110 Labs -

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

- Characterization of agro-ecosystems;
- Sampling methods and factors affecting sampling;
- Population estimation methods; Crop loss assessment direct losses, indirect losses, potential losses, avoidable losses, unavoidable losses.
- Computation of EIL and ETL; crop modeling;
- Designing and implementing IPM system.

OFV201 Communication Skills – II

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. To understand techniques of effective communication

2. To make aware about barriers to communication with ethical context.

3. To understand the process of Email communication and minutes of meeting.

4. To understand the concept and structure of report writing 5. To develop and improve various skills like communication reading listening note making process speaking body language and gestures.

Syllabus

Unit: I Communication with media

1. Written media of communication
2. Letters, notices, minutes, manual, leaflets, complaints and suggestions
3. Job application
4. Visual media of communication
5. Slide presentations, picture and photographs, poster and advertisement
6. Nonverbal media of communication

Unit: II Written communication: reports

1. Types of reports, characteristics of good reports
2. Essential requisites of good report writing
3. Planning the reports
4. Outlining issues for analysis writing the reports

Unit: II Group communication

1. Problems of group communication
2. Meeting

3. Advantages of meeting
4. Preparations of for meeting

Unit: IV Interview

1. Purpose of interviews
2. Types of Interview
3. Employment Interview
4. Candidates Preparation
5. Questions commonly asked in Interview
6. Role of Interviewer

Reference Books

1. Business communication by Urmila Rai and SM Rai

2. Communication skills for effective Management by Dr Anjali ghanekar

3. Developing communication skills by Krishna Mohan and Mira Banerjee

Course Outcomes

After completion of study the student will be able to do -

1. To make effective and impressive communication

2. To make communication in ethical manner

3. capable to make possessive digital communication

4. Capable to make abstract and summarise a proposal.

5. Better presentation and communication using proper body language.

OFV202 Computer Fundamentals – II

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. To learn generation classification and application of computer
2. Knowledge of computer equipment including both hardware and software
3. Learn memory and its types in detail
4. To introduce students to information its need use characteristics and level of information
5. Use of software MS Excel MS PowerPoint to solve basic information system problems.

Syllabus

Unit: I – Computer Generation, Languages

1. Generation of Computers: First to Fifth, Types of Programming Languages, Machine Languages,
2. Assembler, linker, interpreter, compiler

Unit: II Computer Memory

1. Introduction
2. Types of memory: RAM, ROM, PROM, EPROM
3. Secondary Storage Devices (FD, CD, HD, Pen drive, DVD, Tape Drive, DAT)

Unit: III Spread Sheet (Excel)

1. Introduction: elements of spreadsheet

2. Opening of spreadsheet, addressing of cell, printing of spreadsheets, saving workbooks

3.Manipulation of cells: entering text, numbers and dates, creating text, number and date series

4. Editing worksheet data, inserting and deleting rows, column, changing cell, height and width

5. Formulas and functions: using formulas, function

Unit: IV - MS Power point

1. Basics: Opening and saving presentation,

2. Creation of presentation: use of template, blank presentation, editing text

3. Inserting and deleting slides in a presentation

4. Preparation of slides: word table or an Excel worksheet, adding Clipart and picture art, inserting other objects, resizing and scaling an object

5. Presentation of slides: viewing a presentation

6. Setup for presentation

7. Printing slides and handouts

8. Slide show: running, transition and slide timings

Unit: V – Communications and collaborations

1. Basics of email: what is an electronic mail, email addressing, using emails

2. Opening email, account Mailbox: inbox and outbox

3. Email message: create, send, reply

4. Sorting and searching emails

5. Document collaboration

6. Instant messaging and collaboration

7. Using instant messaging

8. Instant messaging providers

Reference Books

1. Fundamental of information technology buy Chetan Srivastava

2. Fundamental of Computer bi V Rajaram

3. Fundamental programming by R. K. Jain

4. Microsoft Office 2016 Word Excel one notebook volume 1 by Lali Mali

Course Outcomes

1. Understand the concept of input and output devices of computer and how it works

2. To understand the concept and structure and types of designing operating system

3. Understand the concept of data communication its more its forms and that a communication channel.

4 Understand evolution of internet its application and its basic services.

5. Recognize when to use each of the Microsoft office program to create professional and academic document.

6. Create and design a word document for general office use.

OFV203 Lab - Communication Skills – II

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. Listening comprehension: video 1
2. Listening competition: video 2
3. Listening comprehension: video 3
4. Reading comprehension: reading with proper pronunciation and reading part 1
5. Reading comprehension reading with proper pronunciation and reading part 2
6. Speaking CIFEL spoken English exercise volume 1
7. Speaking CIFEL spoken English exercise volume 2
8. Speaking: drilling: proper pronunciation of word
9. Speaking: drilling: proper pronunciation of sentence

OFV 204 Lab - Computer Fundamentals – II

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. To study different elements of spreadsheets

2. To study manipulation of cells entering text number and dates creating test number and date series in Microsoft Excel

3. To study and apply different formulas and function in Microsoft Excel

4. Create one Excel sheet of result analysis of students

5. To study and apply creation in presentation in Microsoft Power Point

5. To study different types of charts, table used in Power Point presentation

6. To study presentation of slide create one presentation for college advertisement at global level

7. Create email id and send mail to friends about wishes 8. Create one loan purpose Power Point Presentation with Excel sheet

OFV-205

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

- It **aims** at improving the genetic makeup of the **crop plants**.
- Improved varieties are developed through **plant breeding**.
- Its **objectives** are to improve yield, quality, disease-resistance, drought and frost-tolerance and important characteristics of the crops.

Syllabus

Plant Breeding

Chapter 1. Introduction, history, aims and objectives

Chapter 2. Domestication, plant introduction and acclimatization

Chapter 3. Hybridization – history, hybridization procedure.

Chapter 4. Selection methods -mass selection, pureline selection and clonal selection

Chapter 5 . Hybridization in self pollinating plants

Chapter 6. Hybridization in cross pollinating plants

Chapter 7. Heterosis and hybrid vigour

Chapter 8. Mutation in crop improvement

Chapter 9. Hybridization programme in Jowar and Cotton

Chapter 10. Experimental designs and biometrical techniques in plant breeding - Randomized block design, Latin square design, Analysis of variance, Assessment of variability, Simple measures of variability

Reference Books

1. Gehlot, G. (2005) *Organic Farming; Standards, Accreditation Certification and Inspection*. Agrobios (India), Jodhpur.
2. Gupta, M.K. (2007) *Handbook of Organic Farming and Bio-fertilizers*. ABD Publishers. Hartmann, H.T. and Kester, D.E. (1989) *Plant Propagation – Principles and Practices*. Prentice Hall of India.
3. Lampkin, N.H. and Padel, S. (1994) *The Economics of Organic Farming – An International Perspective*. Wallingford, UK.
4. Palaniappan, S.P. and Annadorai, K. (2008) *Organic Farming- Theory and Practice*. Scientific Publishing Services, Chennai.
5. Panda, H. and Hota, D. (2014) *Bio-fertilizers and Organic Farming*. Gene Tech Books New Delhi.
6. Peter K.V. 2002. (Ed.) *Plantation Crops*. National Book Trust of India, New Delhi.
7. Pradeepkumar, T., Suma, B., Jyothibhaskar and Satheesan, K.N. (2008) *Management of Horticultural Crops*. New India Publishing Agency, New Delhi. 15
8. Radha, T. and Mathew, L. (2007) *Fruit Crops*. New India Publ. Agency, New Delhi.
9. Rajan, S. and Baby, LM. (2007) *Propagation of Horticultural Crops*. New India Publ. Agency, New Delhi.

Course Outcomes

- Determine **breeding** methodology appropriate for **plants** with different mating systems.
- Conduct basic statistical analyses related to **plant breeding**.
- Analyze journal articles related to cultivar development.
- Conduct and analyze a selection experiment.

OFV206

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. To teach seed technology course.
2. Research on seed production/processing/testing.
3. To strengthen the seed technology research.
4. To give training to those who are involved in seed production, processing, testing, etc.

Syllabus

Chapter 1. Seed technology -history, aims and objectives

Chapter 2. Morphology and anatomy of seed (monocot and dicot seed, endospermic and non endospermic seed)

Chapter 3. Stages of seed multiplication -

- Nucleus seed
- Breeders seed
- Foundation seed
- Certified seed
- Registered seed
- Truthful seed

Chapter 4. Seed certification process

Chapter 5. Stage wise multiplication of foundation and certified seed in Jowar and Cotton

Chapter 6. Seed processing – drying, cleaning, dressing, bagging, tagging, storage and marketing

Chapter 7. New techniques in seed technology

Reference Books

1. Rajarathnam, S. (2011) *Advances in Preservation and Processing Technologies of Fruits and Vegetables*. New India Publishing Agency, New Delhi.
2. Randhawa, G.S. and Mukhopadhyay, A. (1986) *Floriculture in India*. Allied Publishers (P) Ltd., New Delhi.
3. Sharma, A.K. (2013) *A Handbook of Organic Farming*. Agrobios (India), Jodhpur.
4. Sindhu, P.K. (2014) *Handbook of Organic Farming and Organic Food*. Centrum Press, Delhi.
5. Singh, Brahma and Balraj Singh (2014) Advances in Protected Cultivation. New India Publishing Agency, New Delhi.

Course Outcomes

- Student knows and understands biological bases of technologies used in modern seed science and technology.
- Student properly identifies problems related to production of high quality seeds and is able to take actions using relevant techniques and technologies
- Student is able to define properly priorities leading to accomplishment of a task. Student is able to cooperate and work in a team.
- Student recognizes a necessity of thinking in economic and social categories to make a decision. Student is aware of importance of social, professional and ethical responsibilities for the quality of produced seeds.
- Student realizes a necessity of increasing specialized knowledge and skills and understands a need for developing his/her qualifications in relation to his/her field.

OFV207

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

Syllabus

Chapter 1: Methods of collection and preservation of insects

Chapter 2: study of agricultural pests

Chapter 3: Study of major crop pest

- **Jawar-** stem borer, Midge fly
- **Cotton-** Red Cotton bug, Pink bollworm
- **Ground nut-** White grub, Pod Sucking Bug
- **Sugarcane-** Pyrilla, Stem borer

Chapter 4: Study of stored grain pest

- **Rice Weevil**
- **Pulse beetle**

Chapter 5: Control measure of Insect pest

Chapter 6: Methods of control measures

Chemical, Biological, IPM

Chapter 7: Insecticides and plant protection appliances like Hand Compression sprayers, Hand rotating duster and bucket pump

Reference Books

- Chapman RF. 1998. The Insects: Structure and Function. Cambridge Univ. Press, Cambridge.
- David BV & Ananthkrishnan TN. 2004. General and Applied Entomology. Tata-McGraw Hill, New Delhi.

- Duntson PA. 2004. The Insects: Structure, Function and Biodiversity. Kalyani Publ., New Delhi.
- Evans JW. 2004. Outlines of Agricultural Entomology. Asiatic Publ., New Delhi.
- Richards OW & Davies RG. 1977. Imm's General Text Book of Entomology. 10th Ed. Chapman & Hall, London.
- Saxena RC & Srivastava RC. 2007. Entomology: At a Glance. Agrotech Publ. Academy, Jodhpur.
- Snodgross RE. 1993. Principles of Insect Morphology. Cornell Univ. Press, Ithaca.

OFV 208 Labs -

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

Practical's (Plant Breeding)

1. Study of floral biology of Jowar and cotton
2. Demonstration of male sterility in Jowar
3. Artificial emasculation and pollination in Jowar and cotton
4. Demonstration of hybridization techniques in Jowar and cotton
5. Designing of field experiments
6. Visit to plant breeding centre

OFV 209 Lab

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

Practical's (Seed Technology)

1. Study of morphology and anatomy of monocot, dicot, endospermic and non-endospermic seeds
2. Study of seed germination – observation of normal and abnormal seedlings, germination percentage
3. Blotter test
4. Method of breaking seed dormancy
5. Study of various seed processes – drying, cleaning, dressing, bagging, tapping and marketing
6. Preparation of seed certification tag
7. Viability test (Tetrazolium test)
8. Visit to various seed farms and research centers

OFV 210 Lab -

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. **Methods of collection and preservation of insects**
2. **Study of agricultural pests**
3. **Study of major crop pest**
   - **Jawar-** stem borer, Midge fly
   - **Cotton-** Red Cotton bug, Pink bollworm
   - **Ground nut-** White grub, Pod Sucking Bug
   - **Sugarcane-** Pyrilla, Stem borer

4.Study of stored grain pest

- Rice Weevil
- Pulse beetle

5. **Study of Methods of control measures**

Chemical, Biological, IPM

6. **Study of Insecticides and plant protection appliances like**

- Hand Compression sprayers,
- Hand rotating duster
- Bucket pump

OFV 301 Industrial Ethics and Safety Management

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. To create awareness on professional ethics and human values.
2. To create awareness on engineering ethics providing basic knowledge and about engineering ethics variety of moral issues and moral Dil name is professional id as and virtue.
3. To provide basic family detail about engineer as a responsible experimental research ethics code of ethics industrial standard.
4. To inculcate knowledge and exposure of on safety and risk, risk benefits analysis and have an idea about the collective bargaining, confidentiality, Professional Employment and little property rights.
5. To have an OFVquate knowledge about a man sees business environment computer it takes honesty moral leOFVrship sample code of conduct

Syllabus

Unit I Human Values

Morals values and ethics, integrity, work ethic, service learning, Civic virtue, respect for others, living peacefully, caring, sharing, honesty, courage, valuing time, cooperation, commitment, empathy, self confidence, character, spirituality, introduction to yoga and meditation for professional excellence and stress management.

Unit II Engineering Ethics

Senses of Engineering ethics, variety of moral issues, types of inquiry, moral dilemmas, moral autonomy, Kohelberg's theory, Gillgan's theory, consciousness and controversy

model of professional roles theories about right action self interest customs and religion uses of ethical theories.

Unit III Engineering as a social experimentation

Engineering as experimentation, Engineer as a responsible experimenter, codes of ethics, a balanced outlook on law.

Unit IV Safety Responsibilities and Rights

Safety and risk, assessment of safety and risk, risk benefit, analysis and reducing risk, respect for authority, collective bargaining, confidentiality, conflicts of interest, occupational crime, professional rights and employee rights, Intellectual Property Rights, discrimination.

Unit V Global Issues

Multi-National corporations, Business Ethics, environmental ethics, computer ethics, role in technological development, Engineers as managers, Consulting Engineers, Engineers as expert, witnesses and Advisors, honesty, moral relationship, sample code of conduct.

Reference Books

1 professional ethics and human values by fbs Senthil Kumar 2per textbook on professional ethics and human values by R S Nagarajan

Course Outcomes

1. Student understand the core values that shape the ethical behavior of an engineer and expose awareness on professional ethics and human values.

2. The student will understand the basic perception of profession professional ethics various moral issues and use of ethical theories.

3. The student will understand various social issues in the Steel standard code of ethics and rule of professional ethics in engineering field.

4. The students will be aware of responsibility of an engineer for safety and risk benefit analysis professional rights and responsibilities of an engineer.

5. The students will OFVquate acquire knowledge about various roles of engineers in variety of global issues and able to apply article principle to resolve the situation that arises in their professional lives.

OFV 302 Environment Science

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. Creating the awareness about environmental problems among people
2. Imparting basic knowledge about the environment and its allied problems
3. Developing and attitude of concern for the environment
4. Motivating people to participate in Environment protection and environment improvement

Syllabus

Unit 1. The Multidisciplinary Nature of Environmental Studies

Definition scope and importance need for public awareness

Unit 2 Social Issues and the Environment

From unsustainable to sustainable development, urban problems related to energy, water conservation, rain water harvesting, watershed harvesting, resettlement and rehabilitation of people, its problems and concerns, environmental ethics, issues and possible solutions, climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and Holocaust, wasteland reclamation, consumerism and waste products, environmental protection act, water act, Wildlife Protection Act, forest conservation act, issues involved in enforcement of environmental, legislation public awareness,

Unit 3 Human Population and Environment

Population growth, variation among Nations, population explosion, Family Welfare programs, environment and human health, Human Rights, value education, HIV/ AIDS, women and child welfare, role of information technology in environment and human health.

Unit 4 Natural Resources

Water resources, use and over utilization of surface and groundwater, floods, droughts, conflicts over Water Dam, benefits and problems,

Food resources- world food problems, change caused by agriculture and overgrazing effects of modern, agriculture fertilizers, pesticides problem, water logging, salinity, energy resources, growing energy needs renewable and nonrenewable energy sources, use of alternative energy sources

Land resources - land as a resource, Land Degradation, man induced landslides, soil erosion and desertification, role of an individual in conservation of natural resources, equitable use of resources for sustainable lifestyles.

Unit 5 Ecosystems

concept of an ecosystem, structure and function of an ecosystem, producers consumers and decomposers, energy flow in the ecosystem, ecological succession, food chains, food Webs and ecological pyramids, introduction, types, characteristics features structure and function of the following ecosystem- forest ecosystem, grassland ecosystem, desert ecosystem, aquatic ecosystem.

Unit 6 Environmental Pollution

Definition, causes effects and control, measures of air pollution, water pollution, soil pollution, marine pollution, noise pollution, Thermal Pollution, nuclear hazards,

Solid waste management- cause, effects and control measures, role of an individual prevention of pollution, disaster management, floods, earthquakes, cyclones and landslides.

Reference Books

one environmental science bike why casing to environmental studies 3rd edition paperback by R Raj Gopalan

OFV 303 Lab - Industrial Ethics and Safety Management

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. Study of yoga and meditation for professional excellence and stress management
2. Study of work and uses of ethical theories
3. Study of course of ethics
4. Study of professional roles of engineers in different sector
5. Study of professional rights of human in industry
6. Study of environmental ethics
7. Study of technological development in industry
8. Study of multinational corporation case studies
9. Industrial visit

OFV 304 Lab - Environment Science

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. Study of rainwater harvesting
2. Study of ozone layer depletion
3. Study of population growth and its effect on environment
4. Study of role of information technology in environment and human health
5. Study of natural resources benefits and problems
6. Study of structure and function of an ecosystem
7. Study of air pollution and its effect on human and environment
8. Study of water pollution and its effect on human and environment
9. Study of soil pollution and its effects on humans and environment
10. Study of solid waste management

OFV 305

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

- The objectives of the Plant Pathology are the study on: the living entities that cause diseases in plants;
- the non-living entities and the environmental conditions that cause disorders in plants;
- the mechanisms by which the disease causing agents produce diseases;
- the interactions between the disease causing agents and host plant in relation to overall environment; and the method of preventing or management the diseases and reducing the losses/damages caused by diseases.
- It involves the study of pathogen identification, disease etiology, disease cycles, economic impact, plant disease epidemiology, plant disease resistance, how plant diseases affect humans and animals, pathosystems genetics, and management of plant diseases.
- Plant pathology comprises with the fundamental knowledge and technologies of Botany, Plant Anatomy, Plant Physiology, Mycology, Bacteriology, Virology, Nematology, Genetics, Molecular Biology, Genetic Engineering, Biochemistry, Horticulture, Tissue Culture, Soil Science, Forestry, Physics, Chemistry, Meteorology, Statistics and many other branches of applied science.

Syllabus

Fundamentals of plant pathology

1. Plant pathology – history, scope, losses due to pathogens, importance and need to study plant pathology

2. Classification of plant diseases on the basis of symptoms and causal organisms – animate and inanimate

3. Plant pathological institutes – IARI (Indian Agricultural Research Institute), ICRISAT (International Crop Research Institute for Semi Arid Tropics)

4. Seed pathology – concept and importance of seed pathology, seed borne pathogens, and methods to study seed borne pathogens

5. Study of air borne pathogens: methods and applications

6. Field and laboratory diagnosis of plant disease - Koch's postulates

Reference Books:

1.Agrios, G. N. (1969) Plant Pathology, Academic Press, New York.
2. Rangaswami, G. and A. Mahadevan (2001) Disease of crop plants in India, Prentice Hall of India,
Pvt. Ltd., New Delhi.
3.Gupta, V. K. and V. S. Paul (2001) Disease of vegetable crops. Kalyani Publ. Ludhiana,
4. Gupta, V. K. and S. K. Sharma (2000) Disease of fruit crops, Malyani Publ. Ludhiana.
5. Raychaudhari, S. P. and T. K. Nariani (1977) Virus and Mycoplasma disease of Plants in India.
Oxford and IBK Publ. Corp., New Delhi.
6. Bos, L. (1999) Plant viruses, unique and intriguing pathogens. Backhugs Publ. Leiden.
7. Rangaswami, G. and S. Rajagopalan (1973) Bacterial Plant Pathology, T. N. Agri. Uni., Coimbatore.

Course outcomes

Students will acquire knowledge on:

1) The general bases of plant diseases caused by biotic and abiotic agents;

2) Major infective crop diseases with severe economic impact;

3) The measurement of disease symptoms;

4) Principle of disease control in according to the recent legislation of integrated or biological disease management.

OFV 306

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. To study biotic (living), macrobiotic and abiotic (non-living and environmental) causes of diseases or disorders
2. To study the mechanisms of disease development by pathogens
3. To study the plant (host)-pathogen interaction in relation to the environment
4. To develop methods of management of plant diseases.

Syllabus

Study of the following diseases with respect to symptoms, causal organism, disease cycle and disease management:

1) Cereals:

a. Black stem rust of wheat

b. Grain smut of jowar

c. Ergot of bajra

2) Pulses:

a. Wilt of pigeon pea

b. Yellow vein mosaic of bean

3) Vegetables:

a. Late blight of potato

b. Little leaf of brinjal

c. Black rot of onion (Aspergillus)

4) Oil seeds:

a. Tikka disease of groundnut

b. Damping off of mustard

5) Cash crops:

a. Grassy shoot of sugarcane

b. Downy mildew of grapes

c. Angular leaf spot of cotton

d. Citrus canker

6) Ornamentals:

a. Powdery mildew of rose

7) Weeds:

a. Rust of Euphorbia

8) Trees:

a. Cercospora on Albizzia fruits

Reference Books:

1.Agrios, G. N. (1969) Plant Pathology, Academic Press, New York.
2. Rangaswami, G. and A. Mahadevan (2001) Disease of crop plants in India, Prentice Hall of India,
Pvt. Ltd., New Delhi.
3.Gupta, V. K. and V. S. Paul (2001) Disease of vegetable crops. Kalyani Publ. Ludhiana,
4. Gupta, V. K. and S. K. Sharma (2000) Disease of fruit crops, Malyani Publ. Ludhiana.
5. Raychaudhari, S. P. and T. K. Nariani (1977) Virus and Mycoplasma disease of Plants in India.
Oxford and IBK Publ. Corp., New Delhi.
6. Bos, L. (1999) Plant viruses, unique and intriguing pathogens. Backhugs Publ. Leiden.
7. Rangaswami, G. and S. Rajagopalan (1973) Bacterial Plant Pathology, T. N. Agri. Uni., Coimbatore.

Course outcomes

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

1 Recognize and identify the most common diseases found in central California.

2 Explain how plant diseases are classified by symptoms displayed on plants.

3 Analyze a disease situation and determine the best cultural, mechanical, and biological control methods used to manage the plant disease.

4 Distinguish between the various integrated pest management strategies for plant disease management.

5 Compare some of the "Best Management Practices " for the production of food crops and ornamentals.

OFV 307

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

- The **objectives** of the **Plant Pathology** are the study on: the living entities that cause **diseases** in **plants**;
- The non-living entities and the environmental conditions that cause disorders in **plants**;
- The mechanisms by which the disease causing agents produce **diseases**;
- The interactions between the disease causing agents and

Syllabus

Cultivation practices

Unit -1

a) Cereals: Maize, Pearl millet and Rice

b) Pulses: Bengal gram, Black gram and Pigeon pea

c) Oil seed crops: Soybean, Mustard and Castor

Unit -2

a) Fibre crops: Jute, Sunhemp and Cotton

b) Horticultural crops: Banana, Orange and Mango

c) **Ornamentals:** Rose, Orchids and Chrysanthemum

Unit -3

a) Beverages: Tea and Coffee

b) Forage crops: Cowpea, Jowar and Lucerne

c) Vegetable crops: Brinjal, Potato, Tomato and Onion

d) Condiments and Spices: Cardamom, Black pepper and Chillies

Reference Books

1. M T Madigan, and J M Martinko, 2014. Biology of Microorganisms 14thEdn.

2. Pearson.M J Pelczer, 1998. Microbiology 5 thEdn. Tata McGrow Hill Education Pvt. Ltd.

3. Strainer, R, 1987. General Microbiology. Palgrave Macmillan.EdwardAlchano, 2002. Introduction to Microbiology.Jones and Bartlett hearing.

4. R P Singh, 2007. General Microbiology. Kalyani Publishers.

5. J Heritage, E G V Evans, R A Killington, 2008. Introductory Microbiology. Cambridge University press P. date.

6. Pelczar, jr.M.J.E.C.S.Chan and Krieg, N.R. 1996. Microbiology. McGraw Hill Publishers, Newyork.

7. Prescott, L.M. Harley, J.P. and Klein, D.A (5ed) 2002. Microbiology. McGraw Hill Publishers, Newyork.

8. Jamaluddin, M. Malvidya, N. and Sharma, A. 2006. General Microbiology. Scientific Publishers, Washington.

9. Sullia, S.B, and Shantaram 1998. General Microbiology. Oxford and IBH.

10. Borkar,S,G, and Patil N.M. 2016.Mushroom,A nutritive food and its cultivation. Astral International Pvt.Ltd,New Delhi

11. Borkar,S.G. 2015.Beneficial Microbes as Biofertilizers and its Production Technology Woodhead Publisher,I ndia,New Delhi

12. Madigan, M. Martinkoj, M. and Parker (10 ed.) 2003. Biology of Microorganisms. Prentice Hall of India Pvt. Ltd., New Delhi.

Course outcomes

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

1 Recognize and identify the most common diseases found in central California.

2 Explain how plant diseases are classified by symptoms displayed on plants.

3 Analyze a disease situation and determine the best cultural, mechanical, and biological control methods used to manage the plant disease.

4 Distinguish between the various integrated pest management strategies for plant disease management.

5 Compare some of the "Best Management Practices " for the production of food crops and ornamentals

OFV 308 Lab -

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

Practicals on (Plant Pathology)

1. Study of Koch's postulates – isolation, inoculation and disease development

2. Study of the following diseases with respect to symptoms, causal organism, and disease cycle and disease management

1) Cereals:

a. Black stem rust of wheat

b. Grain smut of jowar

c. Ergot of bajra

2) Pulses:

a. Wilt of pigeon pea

b. Yellow vein mosaic of bean

3) Vegetables:

a. Late blight of potato

b. Little leaf of brinjal

c. Black rot of onion (Aspergillus)

4) Oil seeds:

a. Tikka disease of groundnut

b. Damping off of mustard

5) Cash crops:

a. Grassy shoot of sugarcane

b. Downy mildew of grapes

c. Angular leaf spot of cotton

d. Citrus canker

6) Ornamentals:

Powdery mildew of rose

7) Weeds:

Rust of Euphorbia

8) Trees:

Cercospora on Albizzia fruits

OFV 309 Lab -

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

Practical on Disease Management

1. Study of fungicides as per theory syllabus
2. Preparation of Bordeaux mixture, burgundy mixture and Bordeaux paste
3. Study of insecticides with respect to active ingredient, colour code, formulation, mode of action, antidote and uses
4. Study of Trichoderma culture
5. Study of plant protection equipments –pneumatic air pump, knapsack sprayer, mist blower cum duster
6. Principle and working of autoclave, laminar air flow, Tilak air sampler
7. Use of aerobiological techniques to study fungal spora (gravity slide method, Tilak air sampler)
8. Calibration of microscope and measurement of fungal spores
9. Sketching of fungal spore by camera lucida technique
10. Detection of organic acids from healthy and infected leaves by circular paper chromatography
11. Detection of Amino acids from healthy and infected leaves by circular paper chromatography
12. Study of pathogens in fruits from local market
13. Study of fungi from locally available seed samples
14. Preparation of sterile media - nutrient agar, potato dextrose agar
15. Preparation of stains and mounting media - cotton blue, lacto phenol and gram stain

OFV 310 Lab -

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. Study of morphology, structure and simple histochemical tests of food storing tissues in Maize, Rice, Jowar, Gram, Pigeon pea, Potato
2. Study of histochemical tests of lignin and cellulose (Jute, Cotton, Sunhemp)
3. Hand section of Groundnut, Sunflower and staining of oil droplets
4. Study of plantation crops (Tea and Coffee)
5. Study of condiments and spices (Cardamom, Black Pepper and Chillies)
6. Study of horticultural crops (Banana, Orange and Mango)
7. Study of Vegetable crops (Brinjal, Potato, Onion, Tomato)
8. Study of ornamental plants (Rose and Chrysanthemum)

OFV401 Business Communication

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. To provide an overview of perquisites or to business communication.
2. To put in use the basic mechanics of grammar.
3. To provide an outline to effective organizational communication.
4. To underline the nuances of business communication.
5. To impart the correct practice of the strategies of effective business writing.

Syllabus

Unit 1 Communication

Communication - defining process of it, communication model, objective of communication, principle of communication, importance of business communication, importance of feedback

Unit2 Channels of communication

Channels of communication- Introduction, types of communication, dimensions of communication, barriers to communication, verbal, non verbal, formal, informal communication.

Unit 3 Business Writing

Fundamental of business writing, format of business, types of business letter, enquiry letter, complaint letter, pursuaive letter, proposal, report writing.

Unit 4 Letters and Messages

Employment messages, writing resume, application letter, writing the opening paragraph, writing the closing paragraph, summarize.

Unit 5 Spoken Skills

Spoken skills, conducting presentation, oral presentation, speeches, interview, group discussion, English pronunciation, building vocabulary.

Unit 6 Listening Skills

Barriers to effective communication and ways to overcome them,
Listening - Importance of listening, types of listening, barriers to listening and overcoming them, listening situations, developing less listening skills.

Reference Books

1. Business Communication by Bovee, Courtland, John Thill and Mukesh Chaturvedi

2. Business Communication by Kaul Asha

3. Business Communication Strategies by Monipalli Mathukutty

4. Communication Skills for Engineers and Scientists by Sharma Sangeeta and Vinod Sharma

Course Outcomes

1. To be familiar with the complete course outline course objective, learning outcomes, evaluation pattern and assignment.

2. To participate in an online learning environment successfully by developing the implication based on understanding of paraphrasing, deciphering instruction, interpreting guidelines, discussion board and referencing style.

3. To demonstrate his / her ability to write error free while making an optimum use of the correct business vocabulary and grammar.

4. To stimulate their critical thinking by designing and developing clean and lucid writing skills.

5. To demonstrate his verbal and nonverbal communication ability through presentations.

OFV 402 Personality Development

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. To make the students aware about the dimensions and importance of effect to personality.
2. To understand personality traits and information and vital contribution in the world of business.
3. To make the students aware about the various dynamics of personality development.

Syllabus

Unit 1 Introduction

Meaning and definition of personality, factors affecting personality development-biological, home environment and parents, School environment and teachers, peer group, sibling relationship and mass media, cultural factors, spiritual factors, public relations.

Unit 2 Personality Traits

Meaning and definition, personality traits, developing positive personality traits, attitude factors that determine attitude, benefits of positive attitude and consequences of negative attitude, steps to build positive attitude, personality habits, meaning and concepts of habit, developing effective habits, behavior and character, being proactive-creative and innovative, beginning with the end in mind putting first thing first with determination, discipline, clarity and concentration, thinking big and winning thought, action, active facing challenges, striving for success, apologizing, appreciating, accepting feedback, aiming high, enthusiasm, team-building, setting goals, zeal and passion building.

Unit 3 Pillars of Personality Development

Introspection - meaning and importance, view about introspection, self introspection skills, self assessment - meaning, importance, types and self assessment for students, self appraisal- meaning, importance, tips for self appraisal, self development- meaning, process of self development, self development techniques, use of self development,

individual Development, Plan, self introduction, meaning, tips for effective self introduction, self acceptance, awareness, self-knowledge belief confidence, criticism and self examination, defining success, real or imaginary obstacles to success, factors and qualities that make person successful, concept of failure, reason for failure, person SWOT analysis and STAR analysis

Unit 4 Self Esteem

self concept- meaning, definition and development, self esteem -concept significance of self esteem, types, characteristics of people of high and low self esteem, steps for enhancing positive self esteem, Sigmund ID Ego and superego concept ego management what ego, mis management can do managing egoistic insults.

Unit 5 Personality Formation Structure

Mind mapping, competency mapping, developing interpersonal and group skill, building positive relationships, Strategies for gaining power and influence enhancing personality through effective communication, Intentional communication, intentional listening, effective speech writing and delivering and successful negotiation. Understanding body language, projecting positive body language, manners and etiquettes, proper dressing for various occasions.

Reference Books

1. Seven Habits of Highly Effective People by Stephen Covey

2.You Can Win by Shiv Khera

3. Three Basic Managerial Skills for All by Hall

4. Personality Development and Career Management by R. M. Onkar

5. Business Communications by Nirmal Singh

Course Outcomes

1. He/she can improve personality
2. Understand personality traits and information and vital contribution in the world of business.
3. Able to find various dynamics of personality development.

OFV403 Lab - Business Communication

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1 study of factors affecting personality development

2 study of relationship and mass media, cultural

3study of benefits of positive attitude and consequences of negative attitude

4 study of team building, setting goals in organization

5. study of self development techniques

6. study of personal SWOT analysis and STAR analysis

7.study of ego management

8. study of effective communication in organization

9. study of how to writing and delivering and successful negotiation in sales department

10. visit to organization

OFV404 Lab - Personality Development

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. Study of importance of business communication
2. study of barriers to communication in verbal and nonverbal
3. study of different types of business letter
4. study of report writing and create one report of in any situation in industry
5. study of letters and write one application for the job interview with resume
6. study of different paragraph and write one report on it
7. study of debate
8. Study of interview technique
9. Study of barriers to effective communication
10. developing listening skills

OFV 405

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

- Increase genetic diversity.
- Promote more usage of natural pesticides.
- Make sure the right soil cultivation at the right time.
- Keep and build good soil structure and soil fertility.
- Control pests, diseases, and weeds.

Syllabus

Organic crop production practices

Main Cereals - Rice, Wheat, Maize

Major & Minor Millets - Sorghum (Jower), Pearl millet (Bajra), Ragi, etc.

Common Pulses - Green Gram (Mung), Lentil (Masur), Pigeon Pea (Arhar) Gram, Black Gram (Kalai), Pea, Lathyrus (Khesari), etc

Oilseeds - Mustard, Rai, Groundnut, Sunflower, Sesamum (Til),etc

Vegetables - Brinjal, Potato, Tomato, Okra (Bhindi), Cucurbits and Gourds, Cabbage, Couliflower, Luffa, Carrot, Beet, Turnip, Chilli, Radish, Beans Pea, Basella (Pui), Spinach, Lettuce, Amaranthus, etc

Common Flowers

Common Fruits - Mango, Papaya, Jackfruit, Guava, Coconut, Sapota (Chiku), Bael, Banana, Citrus fruits, etc.

Common Spices -Turmeric, Ginger, Onion, Garlic, Coriander, Chilli, Fenugreek (Methi), Fennel (jeera), etc

Medicinal and Aromatic Plants – Basak, Basil (Tulsi), Kalmegh, Thankuni, Datura, Gurmar, Neem, Nishinda, Akanda, etc

Reference Books

1. Plant Breeding - B. D. Sitigi.
2. Plant Breeding - J. R. Sharma.
3. An Introduction of plant breeding - H. K. Chaudhary.
4. Evolution of crop plants -Edited by Simmonds N. W (1986)
5. Breeding field crops - Poehlrnann and Sleper.
6. Plant Breeding perspectives - Edited by Sheep and Mendnkasen.
7. Crop Breeding, P. B. Vose and S. G. Blixt

Course Outcomes

- Students will be able to identify plant vegetative and reproductive structures.
- Students will understand basic principles, processes and functions of plant growth and reproduction, including photosynthesis, respiration, transpiration, vegetative growth and reproductive growth, fertilization and fruit formation.
- Students will understand factors affecting the need to find sustainable practices for production of feed, feed and fiber crops and how to implement and evaluate them.
- Students will understand how to propagate, plant, sustainably grow, manage and harvest a variety of plants in a diverse set of environmental, marketing, and financial conditions.
- Students will understand how the environment influences plant growth and crop yields, and ways to modify the environment to improve plant growth and yields.
- Students will be able to identify soil types and will be able to identify ways to improve soil fertility as well as reduce soil erosion and improve water quality and availability.
- Students will understand sustainable practices for production of food, feed and fiber crops and how to implement and evaluate them.
- Students will be able to apply their knowledge to solve problems related to plant growth, crop production and natural resource management.
- Students will learn how crop science relates to the economy and environment, both currently and in the future.
- Students will be able to find detailing information on a topic from print as well as online information sources.
- Students will be able to critically evaluate current events and public information related to crop science as being scientifically-based or opinion-based and contribute to the knowledge base of information.
- Students will work with others to coordinate activities to achieve group/team objectives.
- Students will understand how to write in a style appropriate for technical or informative publications for various audiences related to crop science.

OFV 406

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

- To establish objective metrics and processes for assessing occupational competence that are internationally accepted for identification, codification and validation of skills and competencies in a variety of occupations.
- To provide opportunity for individuals to seek a desired WCI Credential Award with credible authentication and documentation of their skills, competencies and professional practices.
- To provide opportunity for organizations to seek accreditation of their courses so that graduates of their courses can be eligible for the Certified Credential Awards granted by WCI.
- To provide maximum certification value at affordable rates to the global workforce.
- To provide employers with validated information to assist in the hiring process.
- To increase marketplace awareness and acceptance of WCI Credential Awards based on the assessed criteria of an individual's skills, competencies and professional practices.
- To respond quickly to evolving market forces and constantly review the changes in occupational competency requirements of the global marketplace

Syllabus

Organic Certification

1. Farm economy: Basic concept of economics- Demand, supply
2. Economic Viability of a farm.
3. Basic production principles
4. Reducing expenses, ways to increase returns,
5. Cost of production system. Benefit/ cost ratio.
6. Marketing, Imports and exports

7. Policies and incentives of organic production.

8. Farm inspection and certification: I

9. Farm inspection and certification: II

10. Conversion to organic farming, Process

11. Income generation activities: Apiculture, Mushroom production, Terrace farming.

Reference Books

Course Outcomes

- Understand what it takes to start and successfully operate a farm or educational garden project
- Use information from the course and other sources to make farm management decisions
- The ability to speak clearly about sustainable agriculture, food systems, small business management and your farm goals
- Personal and professional development via hands-on experience, observing a farm season at SOF, advising meetings, networking and Study-A-Farm trips.
- Connections to local, regional, and national sustainable agriculture networks as well as exposure to a wide variety of farm job opportunities, conferences, and organization

OFV 407

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. To study the input output relationship in agriculture and determine the relative efficiency of various factor combinations.
2. To determine the most profitable crop production and livestock raising methods.
3. To study the cost per hectare and per quintal.
4. To evaluate the farm resources arid land use.
5. To study the comparative economics of different enterprises.
6. To determine the relation of size of farm to land utilization, cropping pattern, capital investment and labour employment.
7. To study the impact of technological changes on farm business.
8. To find out ways and means for increasing the efficiency of farm business through better input-output relationship and proper allocation of resources among different uses.

Syllabus

Farm Management

UNIT-I

- Scope of farm management, farm management problems, farm components for an organic farm, farm designing.
- Farm management decisions, principles involved requirements in farming profession.
- Farm budgeting, farm business analysis, farm records.

UNIT-II

- Farm financial management, farm labour and farm machinery management.
- Income generation activities; Livestock management, apiculture, mushroom production, terrace gardening, kitchen garden, Bonsai and flower arrangement.
- Organic silk; horticultural importance of food plants of silkworms.
- Nutrient management of Horticultural plants: Essential plant nutrients, identification of deficiency symptoms and remedial measures. Contamination control in organic farm.

UNIT-III

- In-situ manuring: methods; by animal- advantages and limitations. Green manures- methods of planting, advantages and limitations, mulches and mulching; sustainability.
- Ex-situ manuring: Organic resources, direct incorporation of organic wastes; organic manures- types, method and time of application; organic liquid nutrient preparations, organic soil amendments; Standards for organic inputs of nutrients- fertilizers; Integrated Nutrient Management.
- Composting principles, stages, types and factors; methods; vermicomposting, sludge's and biogas.
- Bio-intensive nutrient management: Bio-fertilizers - types, methods of application, advantages and limitations.

UNIT-IV

- Water management: Importance of water, water resources in India, available soil moisture- distribution of soil moisture- water budgeting- rooting characteristics; soil- plant-water relationship.
- Methods of irrigation and their significance, schedules, quality of irrigation water; assessment of irrigation requirements for different horticultural crops.
- Water use efficiency, fustigation.
- Watershed management - objectives and approaches; rain water conservation, weather elements.
- Weed management in organic horticulture: methods and their relative importance, beneficial weeds.

Reference Books:

- *Asian Agri-History* (Vol. 17(3) July – September 2013), 2013. Asian Agri-History Foundation, Secunderabad – 500 009. pp. 296
- *Asian Agri-History* (Vol. 16(1) January – March 2012), 2012. Asian Agri-History Foundation, Secunderabad – 500 009. pp. 108

- *Organic Cultivation Techniques for Chillies (Iyarkaivazhi Sagupadi Thozhilnutpangal-Milagai*
- *pamphlet)*, August 2010.
- Subramanian, K., Amirtha Nishanth, Abarna Thooyavathy, R. and Vijayalakshmi, K. (eds.). Centre for Indian Knowledge Systems, Chennai. pp. 8
- *Organic Cultivation Techniques – Tomato, Brinjal, Lady's finger and Chilli,* February 2008. Subhashini Sridhar, Kiruthika, P. and Sridevi, R. (eds.). pp. 29
- *Organic Cultivation Techniques – Tomato,* December 2006. Nirmala Devi, T. D., Sridevi, R. and Vijayalakshmi, K. (eds.). Centre for Indian Knowledge Systems, Chennai. pp. 25
- *Organic Cultivation Techniques – Groundnut,* December 2006. Nirmala Devi, T. D., Sridevi, R. andVijayalakshmi, K. (eds.).
- Centre for Indian Knowledge Systems, Chennai. pp. 21 *Organic Cultivation Techniques – Bhendi,* December 2006. Nirmala Devi, T. D., Sridevi, R. and
- Vijayalakshmi, K. (eds.). Centre for Indian Knowledge Systems, Chennai. pp.17
- *Package of Organic Practices from Tamil Nadu for Rice, Groundnut, Tomato and Okra.,* 2006.
- Prepared by the Centre for Indian Knowledge Systems, Chennai for the National Centre for Organic
- Farming (NCOF), Government of India and Food and Agriculture Organisation (FAO), United Nations. pp. 174
- *Organic Cotton Cultivation,* March 2005. Vijayalakshmi, K., Subhashini Sridhar, Sridevi, R. and Arumugasamy, S. (eds.). Centre for Indian Knowledge Systems, Chennai. pp. 39
- *Organic Paddy Cultivation,* December 2004. Vijayalakshmi, K., Nirmala Devi, T. D., Subhashini
- Sridhar and Arumugasamy, S. (eds.). Centre for Indian Knowledge Systems, Chennai. pp.102

- *Organic Vegetable Gardening*, 2003. Sridhar, S. Arumugasamy, S. and Saraswathy, H. and
- Vijayalakshmi, K. (eds.). Centre for Indian Knowledge Systems, Chennai, pp. 46
- *Validation of Indigenous Technical Knowledge in Agriculture*, (Document 3 and 4) 2003. Indian Council of Agricultural Research, New Delhi. pp. 505
- *Vrkshayurveda – Ayurveda for Plants*, August 2001. Subhashini Sridhar, Arumugasamy, S., K. Vijayalakshmi and Balasubramanian, A.V. (eds.). Centre for Indian Knowledge Systems, Chennai. pp.46
- *CIKS Vrkshayurveda Experiments on Seed Treatment Techniques*, 1993 - 2011. Centre for Indian Knowledge Systems, Chennai. pp.324
- *Namvazhi Velanmai. Tamil Nadu Iyarkai Velanmai Arakattalai* (Tamil Nadu Organic Farming Trust), Virattipattu, Madurai – 625 016.
- *Inventory of Indigenous Technical Knowledge in Agriculture*, (Document 1, 2 and Supplementary 2). Indian Council of Agricultural Research, New Delhi

Course Outcomes

- Introduce the whole farm planning concept and why it matters
- Become familiar with process and template for developing a whole farm plan
- Learn how and why to assess your personal interests and strengths
- Learn how to develop a farm goals statement

OFV 408 Lab -

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

Practicals

1. Organic crop production methods- **Main Cereals** - Rice, Wheat, Maize
2. Organic crop production methods- **Major & Minor Millets** - Sorghum (Jower), Pearl millet (Bajra), Ragi, etc.
3. Organic crop production methods- **Common Pulses** - Green Gram (Mung), Lentil (Masur), Pigeon Pea (Arhar) Gram, Black Gram (Kalai), Pea, Lathyrus (Khesari), etc
4. Organic crop production methods- **Oilseeds** - Mustard, Rai, Groundnut, Sunflower, Sesamum (Til),etc
5. Organic crop production methods- **Vegetables** - Brinjal, Potato, Tomato, Okra (Bhindi), Cucurbits and Gourds, Cabbage, Couliflower, Luffa, Carrot, Beet, Turnip, Chilli, Radish, Beans Pea, Basella (Pui), Spinach, Lettuce, Amaranthus, etc
6. Organic crop production methods - **Common Fruits** - Mango, Papaya, Jackfruit, Guava, Coconut, Sapota (Chiku), Bael, Banana, Citrus fruits, etc.
7. Organic crop production methods- vegetables- **Medicinal and Aromatic Plants** – Basak, Basil (Tulsi), Kalmegh, Thankuni, Datura, Gurmar, Neem, Nishinda, Akanda, etc
8. Organic crop production methods- vegetables- Turmeric, Ginger, Onion, Garlic, Coriander, Chilli, Fenugreek (Methi), Fennel (jeera), etc
9. Organic crop production methods- ornamental crops
10. Livestock component in organic farming- I

OFV 409 Lab -

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

- To study the farm management
- To prepare the Farm budgeting
- To study the Farm financial management, farm labour and farm machinery management.
- To study In-situ manuring: methods; by animal- advantages and limitations.
- To study the green manures- methods of planting, advantages and limitations, mulches and mulching; sustainability.
- To study Ex-situ manuring: Organic resources, direct incorporation of organic wastes; organic manures- types, method and time of application; organic liquid nutrient preparations, organic soil amendments; Standards for organic inputs of nutrients- fertilizers; Integrated Nutrient Management.
- To study Water management.
- To study Methods of irrigation.
- To study Watershed management - objectives and approaches; rain water conservation, weather elements.
- Weed management in organic horticulture: methods and their relative importance, beneficial weeds.

Kada, Tal.Ashti, Dist.Beed

Principal
Shri Amolok Jain Vidya Prasarak Mandal's
Shrimati Shantabai Kantilal Gandhi
Arts, Amolok Science, Panalal Hiralal
Gandhi Commerce College
Kada, Tal.Ashti, Dist.Beed

DR.BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY

CIRCULAR NO.SU/Sci.& Tech./B.Voc./33/2018

It is hereby inform to all concerned that, on the recommendation of the Dean, Faculty of Science & Technology, the Hon'ble Vice-Chancellor has accepted the **following curriculum under B.Voc. programme viz: Certificate, Diploma, Advanced Diploma and B.Voc. Degree** in his emergency powers under section 12(7) of the Maharashtra Public Universities Act, 2016 on behalf of the Academic Council as appended herewith:

1.	B.Voc. Industrial Automation,
2.	B.Voc. Automobile Technology,
3.	B.Voc. Farm Equipment and Machinery,
4.	B.Voc. I.T.Skills and Software Development,
5.	B.Voc. Architectural Planning and Interior Design,
6.	B.Voc. Dairy Products,
7.	B.Voc. Drill Technology,
8.	B.Voc. Plant Tissue Culture and Green House Technology,
9.	B.Voc. Renewable Energy Source,
10.	B.Voc. Computer Hardware & Networking Maintenance.
11.	B.Voc.Food Processing and Preservation.
12.	B.Voc. Sustainable Agriculture.
13.	B.Voc. Bioproducts technician

This is effective from the Academic Year 2018-2019 and onwards.

This curriculum are also available on the university website www.bamu.ac.in

All concerned are requested to note the contents of this circular and bring notice to the students, teachers and staff for their information and necessary action.

University Campus,
Aurangabad-431 004.
Ref.No.
SU/B.Voc/2018/21709-22148
Date:- 12-12-2018

Deputy Registrar,
Syllabus Section.

DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY, AURANGABAD.

Curriculum of

B.Voc. Automobile Technology/

Industrial Automation/

Farm Equipment & Machinery.

Choice Based & Credit System

UNDER THE FACULTY OF SCIENCE & TECHNOLOGY.

[Effective from 2018-19 & onwards]

DR.BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY, AURANGABAD {MS}

Course Structure of F.Y. Bachelor of Vocational (SEMESTER – I)

(Automobile Technology/Industrial Automation/Farm Equipment & Machinery)

SEMESTER – I				Marks		
Paper Code	Title	No. of Credit	Hrs./ Week	Internal (CIA)	External (ESE)	Total
Skill Development Components						
BV101	Workshop Technology I	3	3	15	60	75
BV102	Engineering Graphics I	3	3	15	60	75
BV103	Basic Electronics	3	3	15	60	75
BV104	Lab - Workshop Technology I	3	6	25	25	50
BV105	Lab - Engineering Graphics I	3	6	25	25	50
BV106	Lab-Basic Electronics	3	6	25	25	50
General Education Components						
BV107	Communication Skills I	4	4	20	80	100
BV108	Computer Fundamental I	4	4	20	80	100
BV109	Lab- Communication Skills I	2	4	25	25	50
BV110	Lab - Computer Fundamental I	2	4	25	25	50
		30	43	210	465	675

Note : The minimum percentage for passing for each course code, practical examination and ESE is 40 %, failing which he/she will get F grade for that course code.

DR.BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY, AURANGABAD {MS}

Course Structure of F.Y. Bachelor of Vocational (SEMESTER – II)

(Automobile Technology / Industrial Automation / Farm Equipment & Machinery)

SEMESTER – II				Marks		
Paper Code	Title	No. of Credit	Hrs./ Week	Internal (CIA)	External (ESE)	Total
	Skill Development Components					
BV201	Workshop Technology II	3	3	15	60	75
BV202	Engineering Graphics II	3	3	15	60	75
BV203	Electrical Technology	3	3	15	60	75
BV204	Lab - Workshop Technology II	3	6	25	25	50
BV205	Lab - Engineering Graphics II	3	6	25	25	50
BV206	Lab-Electrical Technology	3	6	25	25	50
	General Education Components					
BV207	Communication Skills II	4	4	20	80	100
BV208	Computer Fundamental II	4	4	20	80	100
BV209	Lab- Communication Skills II	2	4	25	25	50
BV210	Lab - Computer Fundamental II	2	4	25	25	50
		30	43	210	465	675

Note : The minimum percentage for passing for each course code, practical examination and ESE is 40 %, failing which he/she will get F grade for that course code.

Program Objectives

The Bachelor of Vocational (Automobile Technology / Industrial Automation / Farm Equipment & Machinery) has the following general program goals:

1. To provide a thorough education in the fundamentals of vocational training so students can enter into engineering practice, obtain professional registration if desired, and/or enter into graduate study.
2. To provide engineering and liberal arts students with an appreciation of the important role of engineering as a fundamental human endeavor.
3. To promote the involvement of undergraduate students in scholarly research with faculty.
4. To promote an appreciation of cultural diversity and the international nature of the engineering practice through terms abroad and international terms in industry.
5. To guide and advise students by providing individual academic counseling and promoting discourse among students, faculty, alumni and engineering professionals.
6. To encourage enrichment of the educational experience through a variety of extracurricular professional activities.
7. To develop and use the best educational methods and maintain modern teaching and research facilities.

Program Outcomes

The Bachelor of Vocational (Automobile Technology / Industrial Automation / Farm Equipment & Machinery) graduates should be able to demonstrate the following knowledge, skills, abilities, and attitudes at the time of graduation:

1. an ability to apply knowledge of mathematics, science, and engineering
2. an ability to design and conduct experiments, as well as to analyze and interpret data
3. an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
4. an ability to function on multidisciplinary teams
5. an ability to identify, formulate, and solve engineering problems
6. an understanding of professional and ethical responsibility
7. an ability to communicate effectively
8. a recognition of the need for, and an ability to engage in life-long learning

9. A knowledge of contemporary issues
10. An ability to use the techniques, skills, and modern engineering tools necessary for professional practice.

Eligibility criteria for Admission:

1. A candidate will be eligible to join 1st semester of B. Voc. Automobile Technology / Industrial Automation / Farm Equipment & Machinery course, if he/she has passed 10+2 examination (Arts/Commerce/Science Stream)

Or

2. Passed 10+2 vocational related to any stream of recognized Board/university, or any other examination recognized as equivalent there to.

Or

3. Passed Two Year ITI(Any Stream) or One year ITI(Any Stream) + One year NCTVT (National Council on Vocational Training)

4. The course of study of B. Voc. shall be divided in to six semesters and university examination will be held at the end of every semester in the months of November/December (for semester I, III & V) and May/June (for semester II, IV & VI) or as fixed by the University.
5. Semester examination will be open to regular candidates who have been on the rolls of a college affiliated to this University and meet the attendance and other requirements.

Attendance

Students must have 75 % of attendance in each course for appearing examination otherwise he / she will not be strictly allowed for appearing the examination of each course. However, students having 65 % attendance may request Head of the concerned Institution for the Condonance of attendance on medical ground.

Evaluation Methods

The assessment will be based on Continuous Internal Assessment (CIA) and semester end examination (SEE).

There shall Continuous Internal Assessment for each theory paper. In each semester, 20% (i.e. 15 or 20) marks shall be for CIA and 80% (i.e. 60 or 80) marks for ESE. Marks obtained by the student in all heads viz. CIA and ESE shall be added while declaring the final result.

Continuous Internal Assessment (CIA):- The internal marks shall be assigned on the basis of tutorials/home assignment/seminar presentation and weekly tests/class test/ preliminary examination to be conducted by the concerned college. These marks shall be communicated to the University before commencement of semester end examination.

End Semester Examination (ESE):

- The end semester examination for each theory and practical paper shall be conducted by the University at the end of each semester.
- Duration of theory examination shall be of three hours for a paper of 80 marks and two hour for a paper of 60/40marks. Practical examinations shall be of three hour duration for every semester end examinations respectively.
- The respective college is advised to arrange maximum number of experiments from the list of experiments provided with the syllabus or experiments based on theory syllabus.
- Assessment of laboratory courses and project will also have 50 % internal and 50 % semester end assessment. Semester end practical examination will be of 25 marks and 25 marks will be for internal examination. Student must perform at least eight experiments from each laboratory course. The semester end practical examination will be conducted at the end of each semester along with the theory examination.
- Students without certified journal shall not be allowed to appear for the practical examination.

Examination Scheme

- A student shall be evaluated for his/her academic performance in a course through class tests, tutorials, practical's, homework assignments, term papers, field work, seminars, quizzes, Test examinations, teachers assessments and the End-Semester Examination as applicable.
- At the end of the semester, there would be an End Semester Examination as per syllabus. For the examination of First Year for the academic year 2018-2019, the minimum percentage for passing for each course code, practical examination and ESE is 40 %, failing which he/she will get F grade for that course code. This rule will be progressively applicable for higher classes in next consecutive years.

- The project work shall be evaluated by midterm seminar(s), quality of work carried out, project report submission and the viva-voce examinations.
- The industrial/field training shall be evaluated through the quality of work carried out, the report submission and presentation(s).

Rule for combined passing:

- To pass the examination a candidate must obtain minimum 40% of Marks in each End Semester Examination & CIA taken together, however the candidate must obtain minimum 40% of Marks at the End Semester Examination.
- To pass a subject where there is no provision of class test, the candidate must obtain 40% of Marks in the End Semester Examination.
- If the candidate remains absent for CIA, his performance should be treated as "Zero" Marks.

SKILL DEVELOPMENT COMPONENT

BV101 - WORKSHOP TECHNOLOGY-I

Teaching Scheme(Theory)	Examination Scheme
Credit : 3 Lecture : 3 Hrs/Week Total Count : 45 Hrs/Semester	Internal Assessment: 15 Marks End Semester Exam: 60 Marks (Duration 2.00 hrs) Total Marks : 75 Marks

Course Objective

1. To study skills in basic engineering practice.
2. To understand & identify the hand tools and instruments used in workshop
3. To study & understand measuring skills of different parts.
4. Obtain practical skills in the trades.

Syllabus

1. Safety and Precautions **6 Hrs**

I. Importance of safety and general precautions to be observed in the shop

II. Use of fire extinguishers

III. Storing and handling of inflammable materials

IV. Elementary first aid.

2. Fitting and Bench Work **9 Hrs**

I. Necessity and importance of bench work..

II. Description and uses of different had tools like: Holding tools, Striking Tools, Cutting tools, Drilling,

III. Boring taping and dying tools

IV. Scrapping tools, Marking tools like surface plates, angle plates, V-blocks Tri-square, scribers etc.

3. Metrology 9 Hrs

I. Introduction, concepts of measurements,

II. measuring instruments such as scale, vernier, micrometer, depth gauge,

III. bore gauge, filler gauge,

IV. screw gauge, divider, caliber, dial gauge,

V. Compression gauge, vacuum gauge.

4. **Manufacturing Process** 8 Hrs

I. Introduction, different types of manufacturing process

II. casting, welding, forging,

III. cold rolling, hot rolling,

IV. Machining, fabricating etc.

5. **Welding** 8 Hrs

I. Introduction, types of welding

II. Arc welding, gas welding,

III. Termite welding etc.

IV. Soldering and brazing.

6. **Sheet metal work** 5 Hrs

I. Introduction, metals used in sheet metal work,

II. sheet metal hand tools

III. sheet metal operation

IV. sheet metal joints

V. Sheet metal working machines.

Reference Books

1. Workshop Technology – Vol. – I and II – By Hajra and Choudhary
2. Production Technology – R.K. Jain
3. Workshop Technology – Vol. I and II – By Raghuwanshi
4. Workshop Technology – By Chapman

Course Outcomes

After successful completion of the course, the students shall be able to

- Acquire skills in basic engineering practice.

- Identify the hand tools and instruments.
- Gain measuring skills.
- Obtain practical skills in the trades.

BV102 - ENGINEERING GRAPHICS I

Teaching Scheme(Theory)	Examination Scheme
Credit : 3 Lecture : 3 Hrs/Week Total Count : 45 Hrs/Semester	Internal Assessment: 15 Marks End Semester Exam: 60 Marks (Duration 2.00 hrs) Total Marks : 75 Marks

Course objectives

I. To enable students to acquire and use engineering drawing skills as a means of accurately and clearly communicating ideas, information and instructions.

II. To enable students to acquire requisite knowledge, techniques and attitude required for advanced study of engineering drawing

Syllabus

1. Drawing standard — 10 Hrs

III. Drawing standard SP46
IV. Dimensioning, Lettering
V. Type of lines
VI. Scaling conventions

2. Geometrical constructions — 12 Hrs

I. Dividing a given straight line into any number of equal parts
II. bisecting a given angle
III. drawing a regular polygon given one side
IV. special methods of constructing a pentagon and a hexagon

3. Orthographic Projections — 10 Hrs

I. Introduction to orthographic projection,
II. drawing orthographic views of objects from their isometric views -Orthographic projections of Points lying in four quarters,
III. Orthographic projection of lines parallel and inclined to one or both planes.

4. Isometric projection — 10 Hrs

I. Introduction
II. Drawing of Isometric scale distinction between Isometric drawing and Isometric projections,
III. Isometric Drawing of a rectangle, hexagon and pentagon, circle an arc,
IV. Isometric drawing and sketching of simple machine Components.

Text Books:

1. N.D. Bhatt, Elementary Engineering Drawing, Chartor Publishing house, Anand, India.

2. D. N. Johle, Engineering Drawing, Tata Mcgraw-hill Publishing Co. Ltd..

Reference Books :

1. P.S. Gill, Engineering Graphics.

2. N.D. Bhatt, Machine Drawing, Chartor Publishing house, Anand, India.

3. Warren J. Luzzader, Fundamentals of Engineering Drawing, Prentice Hall of India, New Delhi.

4. Fredderock E. Giesecke, Alva Mitchell & others, Principles of Engineering Graphics,

Maxwell McMillan Publishing

Courses outcomes

- The students should be proficient in using engineering drawing apparatus, materials and techniques
- Students should be able to use and interpret standard conventions used in engineering drawing

BV103-ELECTRICAL TECHNOLOGY

Teaching Scheme	Examination Scheme
Credit : 3 Lecture : 3 Hrs/Week Total Count : 45 Hrs/Semester	Internal Assessment: 15 Marks End Semester Exam: 60 Marks (Duration 2.00 hrs) Total Marks : 75 Marks

Course Objective:

1. To provide comprehensive idea about AC and D C circuit analysis, working principles and applications of basic machines in electrical engineering.
2. Maintain and improve their technical competence through lifelong learning, including entering and succeeding in an advanced degree program in a field such as engineering, science, or business.

Syllabus

1. D.C. circuit analysis and network theorems **6 Hrs**

I. Circuit concepts: Concept of network, Active and passive elements, voltage and current sources

II. concept of linearity and linear network, unilateral and bilateral elements, R L and C as linear elements, source transformation,

III. Ohm's Law, Voltage divider rule, Kirchoff's Law:

IV. loop and nodal methods of analysis, star delta transformation,

V. Network theorems: Thevenin's theorem, Norton's theorem, maximum power transfer theorem. (8)

2. Steady state analysis of single phase ac circuits **7 Hrs**

I. AC fundamentals: Sinusoidal, square and triangular waveforms-average and effective value, form the peak factors,

II. concept of phasors, phasors representation of sinusoidally varying voltage and current,

III. Analysis of series-parallel RLC circuits. Apparent, active and reactive powers, power factor,

IV. Causes and problems of low power factor, power factor improvement, resonance in series and parallel circuits, bandwidth and quality factors.

3. Three phase ac circuits **5 Hrs**

I. Three phase system: Its necessity and advantages,

II. Meaning of phase sequence,

III. Star and delta connections, balanced supply and balanced load,

IV. Line and phase voltage/current relation, three phase power measurements.

4. Measurement instruments **8 Hrs**

I. Types of instruments: construction and working principle of PMMC and MI type voltmeter and ammeters,

II. single phase dynamometer type wattmeter and induction type energy meter,

III. use of shunts and multipliers.

5. Introduction of power system: **4 Hrs**

I. General layout of electrical power system and function of its elements,

II. standard transmission and distribution voltages, Concept of grid.

6. Magnetc circuit **8 Hrs**

I. Concepts, analogy between electric and magnetic circuit, magnetic circuits with DC and AC excitation,

II. Magnetic leakage, BH curve, hysteresis and eddy current losses, magnetic circuit calculation, mutual coupling.

III. Single Phase Transformer: Principle of operation, construction, EMF equation, equivalent circuit, power losses, efficiency, Introduction to auto transformers.

7. Principle of Electromechanical energy conversion **7 Hrs**

I. DC Machines: Types, emf equation of generator and torque equation of motor, characteristics and applications of DC motors.

II. Three Phase Induction Motor: Type, principle of operation, slip-torque Characteristics, applications.

III. Single Phase Induction Motor: Principle of operation and introduction to methods of starting, applications.

IV. Three Phase Synchronous Machines: Principle of operation of alternator and synchronous motor, applications.

References:

1. B.L. Threja "Electrical Technology Vol I & 2.
2. V.Deltoro, "Principle of Electrical Engg." PHI.
3. M.A Mallick, Dr. I. Ashraf, "Fundamental of Electrical Engg." Word Press, Lucknow.
4. "Basic Electrical Engg" Dhanpat Rai & sons.

5. I J Nagrath,"Basic Electrical Engg" ,TMH

Course Outcome:

1. To understand the basic concepts of magnetic circuits, electro magnetism and electrostatics.
2. To understand and analyses AC & DC circuits.
3. To understand the working principle, and applications of DC & AC machines.

BV 104- LAB WORKSHOP TECHNOLOGY-I

Teaching Scheme (Practical)	Examination Scheme
Credit : 3 Practical : 6 Hrs/Batch/Week	Internal Assessment: 25 Marks External Exam: 25 Marks (Duration 3.00 hrs) Total Marks : 50 Marks

List of Experiments

1 To study and draw sketches of marking tools.

2 To Study and draw sketches of measuring tools.

3 To draw sketches of different types spanners.

4 To conduct exercise on filing, cutting, scraping and chipping on two jobs each.

5 To conduct exercise on drilling and taping on any two job.

6 To conduct exercise on external threading by using dies

7 To draw neat sketch of bench grinder.

8 To conduct exercise on arc welding and gas welding.

9 To prepare male and female part in fitting shop.

10 To study and draw various types of hand tools.

11 One Industrial Visit

BV105 – LAB ENGINEERING GRAPHICS I

Teaching Scheme(Practical)	Examination Scheme
Credit : 3 Practical : 6 Hrs/Batch/Week	Internal Assessment: 25 Marks End Semester Exam: 25 Marks (Duration 3.00 hrs) Total Marks : 50 Marks

List of Practical:

1. One Sheet on Lines, lettering and dimensioning.
2. Two Sheet on Geometrical Constructions
3. Two Sheet on Orthographic projections
4. One Sheet Projections of straight lines.
5. Two Sheet on Isometric Projections.

BV106-LAB ELECTRICAL TECHNOLOGY

Teaching Scheme	Examination Scheme
Credit : 3 Practical : 6 Hrs/Batch/Week	Internal Assessment: 25 Marks External Exam: 25 Marks (Duration 3.00 hrs) Total Marks : 50 Marks

List of Experiments:

1. Mesh and nodal analysis
2. Verification of Thevenin's Theorem.
3. Verification of Superposition Theorem.
4. Verification of Maximum Power Transfer Theorem.
5. Study of R-L series and R-C series circuit
6. To study the phenomenon of resonance in series RLC circuit.
8. R-L- -C parallel resonance circuit
9. Relationship between phase and line currents and voltages in 3- p[ghase system (Star-Deltas)
10. Power and phase measurements in three phase system by two wattmeter methopd
11. OC and SC test on single phase transformer
12. Determination of losses in single phase transformer by OCT and SCT.
13. To calibrate a single phase induction type energy meter.

GENERAL EDUCATION COMPONENT

BV107 - COMMUNICATION SKILLS I

Teaching Scheme (Theory)	Examination Scheme
Credit : 4 Lecture : 4 Hrs/Week Total Count : 60 Hrs/Semester	Internal Assessment: 20 Marks End Semester Exam: 80 Marks (Duration 3.00 hrs) Total Marks : 100 Marks

Course Objectives

1. To understand techniques of effective communication.
2. To make aware about barriers to communication with ethical context.
3. To understand the process of e-mail communication & minutes of meeting.
4. To understand the concept and structure of report writing.
5. To develop & improve various skills like communication, reading, listing, note making, persuasive speaking, body language & gestures.

1. **Concept of Communication** — 9 Hrs.
   - I. Importance of Communication
   - II. Process of communication
   - III. Feedback
2. **Objective of communication** — 10 Hrs
   - I. Upward communication,
   - II. Downward Communication
   - III. Horizontal Communication
3. **Method of Communication** — 10 Hrs
   - I. Verbal Communication
   - II. Oral Communication
   - III. Written Communication
4. **Written Communication** — 18 Hrs
   - I. Punctuation Marks, Capitals, Abbreviations,
   - II. Grammar: Parts of speech,
   - III. Tenses, Vocabulary Building,
   - IV. Cs of good communication,
   - V. Language of business Writing
5. **Unit V: Oral Communication** — 13 Hrs
   - I. Speeches and Presentation

II. Dialogue

III. Phonetics

Reference Books

1. Business Communication: Urmila Rai & S.M. Rai
2. Communication Skill For Effective Management: Dr. Anjali Ghanekar
3. Developing Communication Skill by Krishna Mohan, Meera Banerjee

Course Outcomes

1. After conclusion of study the students will be able to:
2. 1. To make effective and impressive communication.
3. 2. To make communication in ethical manner.
4. 3. Capable to make persuasive digital communication.
5. 4. Capable to make abstract & summaries of proposals.
6. 5. Better presentation and communication using proper body language

BV108 - COMPUTER FUNDAMENTAL I

Teaching Scheme	Examination Scheme
Credit : 4 Lecture : 4 Hrs/Week Total Count : 60 Hrs/Semester	Internal Assessment: 20 Marks End Semester Exam: 80 Marks (Duration 3.00 hrs) Total Marks : 100 Marks

Course Objective

1. Understand the meaning and basic components of a computer system.
2. To learn generation, classification and application of computers.
3. Knowledge of computer equipment, including both hardware and software.
4. To learn input devices and output devices in detail.
5. Introduced students to information, its need, use, characteristics and level of information.
6. Use software (MS-Word) to solve basic information systems problems.

Syllabus

1. Knowing computer — 15 Hrs

I. Introduction of Computer
II. Basic Applications of Computer
III. Components of Computer System : Input & Output Devices
IV. Concept of Hardware and Software
V. Hardware & Software
VI. Concept of computing, data and information
VII. Concept of Internet, World Wide Web (WWW), Popular Search Engines / Search for content
VIII. Applications of IECT : e-governance, Entertainment
IX. Mobile Banking

2. Computer Generation and Classification — 12 Hrs

I. Generation of Computers
II. Classification of Computers
III. Mini, Super-mini, midi, maxi computer.
IV. Distributed & Parallel Computers

3. Operating system — 13 Hrs

I. Introduction
II. Definition, Need, Functions

III. Types of Operating System : LINUX, WINDOWS

IV. The User Interface : Task Bar, Icons, Menu , Running an Application

V. Operating System Simple Setting : Changing System Date And Time, Changing Display Properties, To Add Or Remove A Windows Component , Adding and removing Printers

VI. File and Directory Management Creating and renaming of files and directories

20 Hrs

4. Understanding Word Processing

I. Introduction

II. Word Processing Basics : Menu Bar

III. Opening and closing Documents : Save and Save as, Page Setup, Printing of Documents

IV. Text Creation and manipulation : Document Creation, Editing Text , Text Selection, Cut, Copy and Paste, Spell check, Thesaurus,

V. Formatting the Text : Font and Size selection, Alignment of Text, Paragraph Indenting, Bullets and Numbering, Changing case

VI. Table Manipulation : Draw Table, Changing cell width and height, Alignment of Text in cell, Delete / Insertion of row and column , Border and shading

Reference Books

1. Fundamental of Information Technology by Chetan Shrivatstava (Kalyani Publication)
2. Fundamental of Computer by V. Rajaram (PHI. Publication)
3. Fundamental of Programming by R.K.Jain (S.Chand)
4. Microsoft Office 2016 Word, Excel, One Note Book - Vol 1 by Lalit Mali

Course Outcomes

After the completion of the course, Students will be able to

1. Understand the concept of input and output devices of Computers and how it works.
2. Understand the concepts, structure, types and design of operating Systems.
3. Understand the concept of Data Communication, its Modes, its Forms and Data Communication Channels.
4. Understand evolution of internet, its application and its basic services.
5. Recognize when to use each of the Microsoft Office programs to create professional and academic documents.
6. Create and design a word document for general office use.

BV 109 - LAB COMMUNICATION SKILLS I

Teaching Scheme (Practical)	Examination Scheme
Credit : 2 Practical : 4 Hrs/Batch/Week	Internal Assessment: 25 Marks External Exam: 25 Marks (Duration 3.00 hrs) Total Marks : 50 Marks

Lab Assessments

1. Listening Comprehension : Listening & Typing
2. Listening Comprehension : Listening & Sequencing of Sentences
3. Reading Comprehension & Vocabulary : Fill in the Blanks
4. Reading Comprehension & Vocabulary : Cloze Exercises
5. Reading Comprehension & Vocabulary : Vocabulary Buildings
6. Reading Comprehension & Vocabulary : Reading & Answering Questions
7. Speaking : Intonation & Ear Training
8. Speaking : Correct Pronunciation & Sound Recognition
9. Speaking : Face to Face Conversation
10. Speaking : Telephone Conversation

BV 110 - LAB COMPUTER FUNDAMENTAL I

Teaching Scheme (Practical)	Examination Scheme
Credit : 2 Practical : 4 Hrs/Batch/Week	Internal Assessment: 25 Marks External Exam: 25 Marks (Duration 3.00 hrs) Total Marks : 50 Marks

List of Experiments

1. To Study Input & Output Devices of Computer System
2. To Study different types of software of Computer System for daily applications
3. To understand different types of web browsers used as a search engines & its applications
4. To Study Applications of IECT : e-governance, Entertainment
5. To Study different generation of Computer
6. Study of the difference between different operating system used in computer system
7. Study of computer windows application & accessories like Notepad, paint, WordPad
8. To Create Word Document and insert Text & Picture
9. To Create Word Document using References, Mailing & Review
10. Create One report using Microsoft word

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Course Structure of F.Y. Bachelor of Vocational (SEMESTER – II)

(Automobile Technology / Industrial Automation / Farm Equipment & Machinery)

SEMESTER – II				Marks		
Paper Code	Title	No. of Credit	Hrs./ Week	Internal (CIA)	External (ESE)	Total
Skill Development Components						
BV201	Workshop Technology II	3	3	15	60	75
BV202	Engineering Graphics II	3	3	15	60	75
BV203	Electrical Technology	3	3	15	60	75
BV204	Lab - Workshop Technology II	3	6	25	25	50
BV205	Lab - Engineering Graphics II	3	6	25	25	50
BV206	Lab-Electrical Technology	3	6	25	25	50
General Education Components						
BV207	Communication Skills II	4	4	20	80	100
BV208	Computer Fundamental II	4	4	20	80	100
BV209	Lab- Communication Skills II	2	4	25	25	50
BV210	Lab - Computer Fundamental II	2	4	25	25	50
		30	43	210	465	675

SKILL DEVELOPMENT COMPONENT

BV201-WORKSHOP TECHNOLOGY-II

Teaching Scheme (Theory)	Examination Scheme
Credit : 3 Lecture : 3 Hrs/Week Total Count : 45 Hrs/Semester	Internal Assessment: 15 Marks End Semester Exam: 60 Marks (Duration 2.00 hrs) Total Marks : 75 Marks

Course Objective

- To study skills in traditional machines used in industry.
- To understand & identify the parts of machine used in workshop
- To study & learned skills of machine operations.
- Obtain practical skills in the trades.

Syllabus

1. Lathe **10 Hrs**

I. Introduction,

II. Classification, applications,

III. Construction and working,

IV. Different types of operations,

V. Construction details, types of lathe,

VI. Different operations such as facing, turning, drilling, boring, threading, parting, knurling etc.

2. Drilling machine **7 Hrs**

I. Introduction,

II. Classification & applications,

III. construction and operations of different types of drilling machine

IV. Advantages & Disadvantages

3. Grinding machine **8 Hrs**

I. Introduction

II. Classification & applications

III. Construction and operations of different types of Grinding machine

IV. Advantages & Disadvantages

12 Hrs

4. **Machine Tools**

I. Introduction,

II. Basic concepts,

III. Construction and working of different types of machines such as shaper, slotter, planner, miller etc.

8 Hrs

5. **CNC machine**

I. Introduction,

II. Basic components

III. Construction Working CNC machine

IV. Types & Application of CNC Machine

Reference Books

1. Workshop Technology – Vol.II – By Hajra and Choudhary
2. Production Technology – R.K. Jain
3. Workshop Technology – Vol II – By Raghuwanshi
4. Workshop Technology – By Chapman

Course Outcomes

After successful completion of the course, the students shall be able to

1. Skills in traditional machines used in industry.
2. identify the parts of machine used in workshop
3. Learned skills of machine operations.
4. Obtain practical skills in the trades.

BV202 - ENGINEERING GRAPHICS II

Teaching Scheme (Theory)	Examination Scheme
Credit : 3 Lecture : 3 Hrs/Week Total Count : 45 Hrs/Semester	Internal Assessment: 15 Marks End Semester Exam: 60 Marks (Duration 2.00 hrs) Total Marks : 75 Marks

Course objectives

I. To enable students to acquire and use engineering drawing skills as a means of accurately and clearly communicating ideas, information and instructions.

II. To enable students to acquire requisite knowledge, techniques and attitude required for advanced study of engineering drawing

Syllabus

1. Solids and sectioning — 15 Hrs

I. Types of solids,

II. Projections of solids with axis perpendicular to HP,

III. solids with axis perpendicular to VP,

IV. Solids with axis inclined to one plane.

V. Projection of spheres touching each other Sectioning of solids:

VI. Section planes perpendicular to one plane and parallel or inclined to other plane.

2: Studies of surfaces — 15 Hrs

I. Intersection of surfaces: intersection of cylinder and cylinder

II. Intersection of cylinder and cone

III. Intersection of prisms

IV. Development of surfaces: Development of cylindrical and conical surfaces

V. Development of prisms

3. Computer aided drafting — 15 Hrs

I. Introduction to computer aided drafting: introduction to computer aided drafting package to make drawings

II. Coordinate System

III. Status bar

IV. Draw Toolbar

V. Modify Toolbar

VI. Dimensioning

Text Books :

1. N.D. Bhatt, Elementary Engineering Drawing, Chartor Publishing house, Anand, India.
2. D. N. Johle, Engineering Drawing, Tata Mcgraw-hill Publishing Co. Ltd.

Reference Books :

1. P.S. Gill, Engineering Graphics.
2. N.D. Bhatt, Machine Drawing, Chartor Publishing house, Anand, India.
3. Warren J. Luzzader, Fundamentals of Engineering Drawing, Prentice Hall of India, New Delhi.

Courses outcomes

- The students should be proficient in using engineering drawing apparatus, materials and techniques
- Students should be able to use and interpret standard conventions used in engineering drawing

BV203 - BASIC ELECTRONICS

Teaching Scheme (Theory)	Examination Scheme
Credit : 3 Lecture : 3 Hrs/Week Total Count : 45 Hrs/Semester	Internal Assessment: 15 Marks End Semester Exam: 60 Marks (Duration 2.00 hrs) Total Marks : 75 Marks

Course Objectives

1. To be exposed to the characteristics of basic electronic devices.
2. Maintain and improve their technical competence through lifelong learning, including entering and succeeding in an advanced degree program in a field such as engineering, science, or business.

1. Basic Electronics Components **6Hrs**

I. Resistors & Types of resistors, Construction and color coding
II. Capacitor, Types of Capacitor and, their construction,
III. Inductor & their types

2. Semiconductor Devices **10Hrs**

I. Introduction to semiconductors: Concept of energy band diagram (Conductor, Semiconductor, Insulator) ,
II. Intrinsic and extrinsic semiconductor (P type, N type), diffusion junction, depletion layer,
III. Barrier potential P-N Junction diode forward and reverse bias characteristics of diode Zener diode LED,
IV. Photodiode,
V. Phototransistor,
VI. LED, Variator Diode, working and characteristics.

3. Transistors 12Hrs

I. BJT, working, characteristics, configuration (CE, CB, CC), α and β relation between α andβ,
II. FET- working and characteristics, parameters,
III. MOSFET- Working and characteristics, UJT- working and characteristics.
IV. Why Bias a Transistor, Selection of Operating Point, Need for Bias Stabilization, Requirement of a Biasing Circuit,
V. Different Biasing Circuits, Fixed-Bias Circuit,
VI. Collector-to-base Bias Circuit, voltage bias,

4. Power Supply Fundamentals **12Hrs**

I. Power supply building blocks,
II. Rectifier, Need of rectifier, Types of Rectifier,
III. Filter and their types,
IV. Voltage doubler, voltage multiplier.
V. SMPS Power Supply ,

VI. Regulated power supply- shunt regulator, series regulator, Transistorized voltage regulator, Three terminal voltage regulator such as IC 78XX & IC 79XX Adjustable voltage regulator using LM-317

Reference Books-

1. Electronic and Radio Engg. – N.D. Gupta,
2. Basic Electronics – Malvino
3. A textbook of Applied Electronics – R.S. Sedha – S.Chand and Co. Ltd. New Delhi.

Course outcome

1. This course gives an overview of various semiconductor devices
2. Learn the characteristics of basic electronic devices.
3. Learn the Characteristics of UJT
4. Learn the Characteristics of FET
5. Learn about Power amplifiers.
6. At the end of this course, the students will be able to analyze and design amplifier circuits, oscillators and filter circuits employing BJT, FET devices.

BV204 - LAB WORKSHOP TECHNOLOGY II

Teaching Scheme(Practical)	Examination Scheme
Credit : 3 Practical : 6 Hrs/Batch/Week	Internal Assessment: 25 Marks External Exam: 25 Marks (Duration 3.00 hrs) Total Marks : 50 Marks

Lab Experiment

1. Draw a neat sketch of lathe machine used in workshop.
2. Demonstration and study of Drilling Machine
3. To conduct two exercises on drilling operation.
4. Demonstration and study of Milling Machine
5. Demonstration and study of shaper Machine
6. Demonstration and study of Grinding Machine
7. To conduct exercise on grinding machine.
8. To prepare a job on lathe machine which consist facing, plain and step turning, taper turning and threading.
9. To prepare a job on lathe machine which consist facing, chamfering, grooving, Knurling. Under cutting.
10. Demonstration and study of CNC Machine
11. One Industrial Visit

BV205 – LAB ENGINEERING GRAPHICS II

Teaching Scheme(Practical)	Examination Scheme
Credit : 3 Practical : 6 Hrs/Batch/Week	Internal Assessment: 25 Marks External Exam: 25 Marks (Duration 3.00 hrs) Total Marks : 50 Marks

List of Practical:

1. One Sheet on Types of Solid
2. One Sheet on Solid solids with axis perpendicular to VP
3. Section planes perpendicular to one plane and parallel or inclined to other plane Sheet
4. Sheet on intersection of cylinder and cylinder & Cylinder and Cone, Prism
5. Development of cylindrical and conical surfaces, Prism
6. To study types of Status Toolbar in CAD
7. To study types of Draw Tools in CAD
8. To study types of Modify Tools in CAD
9. To study types of Dimensioning Toolbar in CAD
10. Create One Drawing with the help of AutoCAD Software.

BV206 - LAB BASIC ELECTRONICS

Teaching Scheme(Practical)	Examination Scheme
Credit : 3 Practical : 6 Hrs/Batch/Week	Internal Assessment: 25 Marks External Exam: 25 Marks (Duration 3.00 hrs) Total Marks : 50 Marks

Lab Experiments

1. To study characteristics of P-N diode Junction.(Forward bias)
2. To study characteristics Zener diode.(Reverse bias)
3. To study the characteristics of PNP transistor in CB configuration and to evaluate-1 Input resistance 2. Output resistance and current gain.
4. To study the characteristics of NPN transistor in CB and to evaluate-1 Input resistance 2. Output resistance and current gain.
5. To find the Q- point of a bipolar junction transistor
6. To Study of fixed bias arrangement for transistor.
7. To study characteristics of CE configuration of transistor.
8. To study voltage doubler circuit.
9. To study of shunt, series voltage regulator.
10. To study characteristics of CE configuration of transistor.
11. To study of voltage regulator IC-78XX & IC-79XX.
12. Study of Voltage regulator using IC317.

GENERAL EDUCATION COMPONENT

BV 207- COMMUNICATION SKILLS II

Teaching Scheme (Theory)	Examination Scheme
Credit : 4 Lecture : 4 Hrs/Week Total Count : 60 Hrs/Semester	Internal Assessment: 20 Marks End Semester Exam: 80 Marks (Duration 3.00 hrs) Total Marks : 100 Marks

Course Objectives

1. To understand techniques of effective communication.
2. To make aware about barriers to communication with ethical context.
3. To understand the process of e-mail communication & minutes of meeting.
4. To understand the concept and structure of report writing.
5. To develop & improve various skills like communication, reading, listing, note making, persuasive speaking, body language & gestures.

Syllabus

1. **Communication with media** — **18 Hrs**
   - I. Written Media of Communication:
   - II. Letters, Notices, Minutes, Manual, Leaflets, Complaints and suggestion,
   - III. Job Application
   - IV. Visual media of communication
   - V. Slide Presentations, Pictures & photographs, Posters & Advertisement
   - VI. Non verbal media of communication
2. **Written Communication: Reports** — **15 Hrs**
   - I. Types of reports, Characteristics of good report
   - II. Essential requisites of good report writing
   - III. Planning the Reports
   - IV. Outlining issues for Analysis, Writing the reports
3. **Group Communication** — **13 Hrs**
   - I. Problems of group communication,
   - II. Meeting,
   - III. Advantages of meeting,
   - IV. Preparations for meeting,
4. **Interview** — **14 Hrs**
   - I. Purpose of Interview,

II. Types of interview,
III. Employment interview,
IV. Candidates Preparation,
V. questions commonly asked in interview,
VI. Role of interviewer

Reference Books

1. Business Communication: Urmila Rai & S.M. Rai
2. Communication Skill For Effective Management: Dr. Anjali Ghanekar
3. Developing Communication Skill by Krishna Mohan, Meera Banerjee

Course Outcomes

1. After conclusion of study the students will be able to:
2. To make effective and impressive communication.
3. To make communication in ethical manner.
4. Capable to make persuasive digital communication.
5. Capable to make abstract & summaries of proposals.
6. Better presentation and communication using proper body language

BV 208 - COMPUTER FUNDAMENTAL II

Teaching Scheme (Theory)	Examination Scheme
Credit : 4 Lecture : 4 Hrs/Week Total Count : 60 Hrs/Semester	Internal Assessment: 20 Marks End Semester Exam: 80 Marks (Duration 3.00 hrs) Total Marks : 100 Marks

Course Objective

1. To learn generation, classification and application of computers.
2. Knowledge of computer equipment, including both hardware and software.
3. To learn memory and its types in detail.
4. Introduced students to information, its need, use, characteristics and level of information.
5. Use software (MC Excel & MS-PowerPoint) to solve basic information systems problems.

Syllabus

1. **Introduction of computer languages** — **8 Hrs**
   - I. Types of programming language: Machine Language, Assembly Language, High Level Language
   - II. Assembler, Linker, Loader, Interpreter, Compiler
2. **Computer memory** — 7 Hrs
   - I. Introduction
   - II. Types of Memory (Primary & Secondary) : RAM, ROM, PROM, EPROM
   - III. Secondary Storage Devices : FD, CD, HD, Pen drive, DVD, DAT
3. **Spread sheet (Excel)** — **15 Hrs**
   - I. Introduction : Elements of Spread Sheet,
   - II. Opening of Spread Sheet , Addressing of Cells, Printing of Spread Sheet, Saving Workbooks
   - III. Manipulation of Cells : Entering Text, Numbers and Dates, Creating Text, Number and Date Series,
   - IV. Editing Worksheet Data, Inserting and Deleting Rows, Column, Changing Cell Height and Width,
   - V. Formulas and Function : Using Formulas, Function
4. **PowerPoint presentations** — **15 Hrs**
   - I. Basics : Opening & Saving A Presentation
   - II. Creation of Presentation : Use a Template, Blank Presentation, Editing Text
   - III. Inserting And Deleting Slides in a Presentation

IV. Preparation of Slides : Word Table or An Excel Worksheet Adding, Clip Art & Picture Art, Inserting Other Objects, Resizing and Scaling an Object

V. Presentation of Slides: Viewing A Presentation

VI. Choosing a Set Up for Presentation

VII. Printing Slides And Handouts

VIII. Slide Show : Running & Transition and Slide Timings

5. Communications and collaboration 15 Hrs

I. Basics of E-mail : What is an Electronic Mail, Email Addressing, Using E-mails

II. Opening Email account, Mailbox: Inbox and Outbox

III. E-mail message : Create, Send, Reply

IV. Sorting and Searching emails

V. Document collaboration

VI. Instant Messaging and Collaboration

VII. Using Instant messaging

VIII. Instant messaging providers

IX. Netiquettes

Reference Books

1. Fundamental of Information Technology by Chetan Shrivatstava (Kalyani Publication)
2. Fundamental of Computer by V. Rajaram (PHI. Publication)
3. Fundamental of Programming by R.K.Jain (S.Chand)
4. Microsoft Office 2016 Word, Excel, One Note Book - Vol 1 by Lalit Mali

Course Outcomes

After the completion of the course, Students will be able to

1. Understand the concept of input and output devices of Computers and how it works.
2. Understand the concepts, structure, types and design of operating Systems.
3. Understand the concept of Data Communication, its Modes, its Forms and Data Communication Channels.
4. Understand evolution of internet, its application and its basic services.
5. Recognize when to use each of the Microsoft Office programs to create professional and academic documents.
6. Create and design a word document for general office use.

BV 209 - LAB COMMUNICATION SKILLS II

Teaching Scheme	Examination Scheme
Credit : 2 Practical : 4 Hrs/Batch/Week	Internal Assessment: 25 Marks External Exam: 25 Marks (Duration 3.00 hrs) Total Marks : 50 Marks

Lab Assessments

1. Listening Comprehension : Video 1
2. Listening Comprehension : Video 2
3. Listening Comprehension : Video 3
4. Reading Comprehension : Reading with proper pronunciation & Recording Part 1
5. Reading Comprehension : Reading with proper pronunciation & Recording Part 2
6. Speaking : CIFEL Spoken English Exercise Volume 1
7. Speaking : CIFEL Spoken English Exercise Volume 2
8. Speaking : Drilling : Proper pronunciation of Word
9. Speaking : Drilling : Proper pronunciation of Sentence

BV210 - LAB COMPUTER FUNDAMENTAL II

Teaching Scheme	Examination Scheme
Credit : 2 Practical : 4 Hrs/Batch/Week	Internal Assessment: 25 Marks External Exam: 25 Marks (Duration 3.00 hrs) Total Marks : 50 Marks

1. To Study different Elements of Spread Sheet
2. To Study Manipulation of Cells Entering Text, Numbers and Dates, Creating Text, Number and Date Series in Microsoft Excel
3. To Study & apply different Formulas and Function in Microsoft Excel
4. Create One Excel sheet of Result Analysis of Students
5. To Study & apply Creation of Presentation in Microsoft PowerPoint
6. To Study different types of Charts, Table used in Power Point Presentation.
7. To study Presentation of Slides
8. Create One Presentation for College advertisement at global level
9. Create Email ID & Send mail to friends about Wishes
10. Create one Dummy official report for loan purpose; create it PowerPoint presentation with Excel Sheet & Send to Class Teacher.

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Course Structure of S.Y. Bachelor of Vocational (SEMESTER – III)

(Automobile Technology)

SEMESTER – III				Marks		
Paper Code	Title	No. of Credit	Hrs./ Week	Internal (CIA)	External (ESE)	Total
Skill Development Components						
AT301	Auto Service Technician	3	3	15	60	75
AT302	Auto Tools & Equipments	3	3	15	60	75
AT303	Automobile Engine Technology	3	3	15	60	75
AT304	Lab-Auto Service Technician	3	6	25	25	50
AT305	Lab-Auto Tools & Equipments	3	6	25	25	50
AT306	Lab-Automobile Engine Technology	3	6	25	25	50
General Education Components						
AT307	Industrial Ethics & Safety Management	4	4	20	80	100
AT308	Environment science	4	4	20	80	100
AT309	Lab - Industrial Ethics & Safety Management	2	4	25	25	50
AT310	Lab- Environment Science	2	4	25	25	50
		30	43	210	465	675

Course Structure of S.Y. Bachelor of Vocational (SEMESTER – IV)

(Automobile Technology)

SEMESTER – IV				Marks		
Paper Code	Title	No. of Credit	Hrs./ Week	Internal (CIA)	External (ESE)	Total
Skill Development Components						
AT401	Two Wheeler Servicing	3	3	15	60	75
AT402	Four Wheeler Servicing	3	3	15	60	75
AT403	Automobile Transmission System	3	3	15	60	75
AT404	Lab-Two Wheeler Servicing	3	6	25	25	50
AT405	Lab-Four Wheeler Servicing	3	6	25	25	50
AT406	Lab-Automobile Transmission System	3	6	25	25	50
General Education Components						
AT407	Business Communication	4	4	20	80	100
AT408	Personality Development	4	4	20	80	100
AT409	Lab-Business Communication	2	4	25	25	50
AT410	Lab-Personality Development	2	4	25	25	50
		30	43	210	465	675

DR.BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY, AURANGABAD {MS}

Course Structure of S.Y. Bachelor of Vocational (SEMESTER – III)

(Automobile Technology)

SEMESTER – III				Marks		
Paper Code	Title	No. of Credit	Hrs./ Week	Internal (CIA)	External (ESE)	Total
Skill Development Components						
AT301	Auto Service Technician	3	3	15	60	75
AT302	Auto Tools & Equipments	3	3	15	60	75
AT303	Automobile Engine Technology	3	3	15	60	75
AT304	Lab-Auto Service Technician	3	6	25	25	50
AT305	Lab-Auto Tools & Equipments	3	6	25	25	50
AT306	Lab-Automobile Engine Technology	3	6	25	25	50
General Education Components						
AT307	Industrial Ethics & Safety Management	4	4	20	80	100
AT308	Environment science	4	4	20	80	100
AT309	Lab - Industrial Ethics & Safety Management	2	4	25	25	50
AT310	Lab- Environment Science	2	4	25	25	50
		30	43	210	465	675

P. Priadarshini

DR.BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY, AURANGABAD {MS}

Course Structure of S.Y. Bachelor of Vocational (SEMESTER – IV)

(Automobile Technology)

SEMESTER – IV				Marks		
Paper Code	Title	No. of Credit	Hrs./ Week	Internal (CIA)	External (ESE)	Total
Skill Development Components						
AT401	Two Wheeler Servicing	3	3	15	60	75
AT402	Four Wheeler Servicing	3	3	15	60	75
AT403	Automobile Transmission System	3	3	15	60	75
AT404	Lab-Two Wheeler Servicing	3	6	25	25	50
AT405	Lab-Four Wheeler Servicing	3	6	25	25	50
AT406	Lab-Automobile Transmission System	3	6	25	25	50
General Education Components						
AT407	Business Communication	4	4	20	80	100
AT408	Personality Development	4	4	20	80	100
AT409	Lab-Business Communication	2	4	25	25	50
AT410	Lab-Personality Development	2	4	25	25	50
		30	43	210	465	675

SKILL DEVELOPMENT COMPONENT

AT301-AUTO SERVICE TECHNICIAN

Teaching Scheme(Theory)	Examination Scheme
Credit : 3	Internal Assessment: 15 Marks
Lecture : 3 Hrs/Week	End Semester Exam: 60 Marks (Duration 2.00hrs)
Total Count : 45 Hrs/Semester	Total Marks : 75 Marks

Objectives:

The student will be made to learn

1. The anatomy of the automobile in general
2. The location and importance of each part
3. The functioning of the engine and its accessories, fuel supply, lubrication and cooling system
4. The functioning of the transmission system

Chapter 1: Introduction of Automobile 04 Hrs

Types of Automobile Vehicles, History of Automobile, Construction and layout detail of Automobile vehicle, Classification of Automobile Vehicle

Chapter 2: Fuel Supply System 08 Hrs

Types of fuel supply system in petrol & Diesel Engine, Types of Fuel Supply System used in Vehicle, Construction and working of Fuel Supply System, Types of Carburetor & its Working, Diesel Fuel Injection system, Modern Vehicle fuel supply System : MPFI, CRDI

Chapter 3: Lubrication system 07 Hrs

Need and purpose of lubrication, characteristic of lubricants, additives of lubricant, grades of lubricant oil, Types of lubrication system, parts filter, oil pump, Dry sump and wet sump lubrication, crank case ventilation, oil breathers, oil pressure relief valve, oil pressure gauge, etc, Maintenance of lubrication system

Chapter 4: Cooling System 06 Hrs

Necessity of cooling, types of cooling, air and water. Pressure cooling, parts of water cooling such as water pump, fan belt, hose pipe, thermostat, radiator, radiator cap, expansion bottle, temperature gauge, coolants etc, Maintenance of cooling system

Chapter 5: Ignition System **06 Hrs**

Introduction, requirement, function, types of ignition system, (Battery, magneto, electronic, DTS) parts of ignition system. Ignition timing, advance mechanism, Maintenance of ignition system

Chapter 6: Transmissions System **06 Hrs**

Introduction of gear box, gear ratio, types of gear, spur, bevel, helical, etc. Types of gear box, sliding, constant, synchromesh, Gear selecting mechanism, parts of gear box, Gear box foundation, over drive, semi and fully automatic transmission, epi cyclic gears, free wheel, Maintenance of gear box

Chapter 7 : Recent research & development in vehicle **06 Hrs**

CNG, , CNG Engine, non conventional power plant, recent trends in combustion chamber, recent research in automobile, advances and development CDI ignition. LPG in automobiles, DTSI Engine, I-Vtech engine, SCCI engine

Outcomes:

The student will be able to

1. Identify the different parts of the automobile
2. Explain the working of various parts like engine, transmission, clutch, brakes
3. Describe how the transmission system operates.
4. Develop a strong base for understanding future developments in the automobile industry

Reference Books

1. Automobile Engineering Vol 2 by K.M. Gupta
2. Automobile Engineering by babu & Singh
3. Automobile Mechanics Paperback – 2019by A. K. Babu

AT302-AUTO TOOLS & EQUIPMENTS

Teaching Scheme(Theory)	Examination Scheme
Credit : 3	Internal Assessment: 15 Marks
Lecture : 3 Hrs/Week	End Semester Exam: 60 Marks (Duration 2.00hrs)
Total Count : 45 Hrs/Semester	Total Marks : 75 Marks

Objectives:

The student will be made to learn

1. Identify Different tools used in automotive
2. Function of automotive & Special tools
3. Function of gauges in automobile vehicles
4. Function of special purpose machine

Chapter 1: General Tools 06 Hrs

Different types of Spanners, Different types of wrench, Different types of hammer, e.g. Mallet, brass, plastic copper etc. Allen key, different types of files, chisel, punches vice grip etc.

Chapter 2: Special Tools 10 Hrs

Box spanner set, feeler gauge, thread gauge, vernier caliper, micrometer, depth gauge, piston ring compressor and expander, valve spring compressor tester, clutch center guide, spark plug spanner, stud extractor, tap extractor, valve spring lifter's .Different types of pullers, types of plugs, sliding hammer, magneto pullers, Toeing equipments

Chapter 3: Different types of Gauges & meters 08 Hrs

Vacuum Gauge, compression gauge, injection pressure gauge, oil pressure gauge, temperature gauge, air pressure gauge, multi meter, Tachometer, dwell tester, timing light, dial gauge, etc.

Chapter 4: Automotive Equipments 11 Hrs

Growler machine, engine analyzer for diesel & petrol, Exhaust Gas analyzer for diesel & petrol, hydrometer, Battery high rate discharge tester, voltmeter, ammeter, grease gun, hot patch clamp, chain pulley block arbor press, engine lifter, hydraulic hoist, hydraulic jack, alternator tester, coil and condenser testing machine, spark plug testing and cleaning machine, injector

tester, blow lamp, paraffin gun, pneumatic nut and bolt tightened, Suzuki scan tools, Accidental repairs pneumatic equipments

Chapter 5: Special Purpose Machines **10 Hrs**

F.I.P. testing and Calibration Machine, wheel alignment Gauge, wheel balancing machine, portable drilling machine, (hand & power) Battery charger, Crank shaft Grinding machine, block boring machine, cylinder head reface, valve refacing machine, valve seat cutter, connecting rod aligner, Engine test rig, head light alignment set up, car washing machine, riveting machine, Hydraulic press, Teflon coating machinery, Body glazing and buffing machinery.

Outcomes

The student will be able to

1. Identify Different tools used in automotive
2. Explain of automotive & Special tools
3. Describe of gauges in automobile vehicles
4. Understand & used of special purpose machine

Reference Books

4. Automotive Electrical Equipment by P.L. Kohli
5. Automobile Engineering by babu & Singh
6. Automobile Mechanics Paperback – 2019by A. K. Babu

AT303-AUTOMOBILE ENGINE TECHNOLOGY

Teaching Scheme(Theory)	Examination Scheme
Credit : 3	Internal Assessment: 15 Marks
Lecture : 3 Hrs/Week	End Semester Exam: 60 Marks (Duration 2.00hrs)
Total Count : 45 Hrs/Semester	Total Marks : 75 Marks

Objective

The student will be made to learn

1. Different types of CI & SI engine
2. Construction & details of engine
3. Properties of fuels and alternative fuel used in engine
4. Different types of exhaust system

Chapter 1: Introduction of Engine & its Specifications **08 Hrs**

Classification of automobile engine, IC engine, CI Engine, Number of strokes, Types of , number of cylinder, arrangement of cylinder, valve arrangement, cooling, ignition.

Definition of TDC, BDC, clearance volume, Swept volume, total volume, stroke length, compression ratio, cubic capacity, displacement, torque, power, work, energy, Numerical

Chapter 2: Construction details of Automobile engine **10 Hrs**

Study, use and construction of piston, cylinder, cylinder block, crankshaft, crankcase, cylinder head, oil sump, valve, valve operating mechanism spark plug, injector, manifolds, piston rings, piston pin, connecting rod, bearings, fly wheel, timing gears, cam shaft, rocker arm, Mani fold and mufflers.

Chapter 4: Automotive fuels **10 Hrs**

Their combustions and combustion chambers, Petroleum (Crude oil), petroleum refining, requirement of an ideal fuel, preparation of commercially suitable automotive fuels, present and future automotive fuels. Calorific of fuels, fuel rating, combustion equations, correlation between octane number and cetane number, detonation or knocking, preignition, diesel knock combustion chambers.

Chapter 5: Emission & Exhaust system **09 Hrs**

Air Pollution due to Automobile Exhaust: Sources of Emission, Exhaust gas constituents & analysis, Ingredients responsible for air pollution, Smoke, odor, Smog formation.

Engine combustion and pollutant formation: HC, CO, NOx, Particulate matters, Aldehyde emission, Effect of operating variables on emission formation, Introduction of BS I & BS 6

Chapter 5: Exhaust System Control **08 Hrs**

Basic method of emission control, catalytic converter, After burners, reactor manifold, air injection, crank case emission control, evaporative loss control, Exhaust gas recirculation, Fuel additives, thermal reactors

Outcomes

The student will be able to

1. Explain Different types of CI & SI engine
2. Understand Construction & details of engine
3. Explain Properties of fuels and alternative fuel used in engine
4. Explain and worked on Different types of exhaust system

Reference Books

1. Automobile Engineering Vol 2 by K.M. Gupta
2. Automobile Engineering by babu & Singh
3. Automobile Mechanics Paperback – 2019by A. K. Babu

AT304- LAB-AUTO SERVICE TECHNICIAN

Teaching Scheme(Practical)	Examination Scheme
Credit : 3	Internal Assessment: 25 Marks
Practical : 6 Hrs/Batch/Week	External Exam: 25 Marks (Duration 2.00hrs)
	Total Marks : 50 Marks

1. Study different construction and layout of automobile vehicles
2. Removing, servicing and refitting of carburetor from different types of engine.
3. Removing, servicing and refitting of Multi point fuel injection system.
4. Removing, servicing and refitting of CRDI system.
5. Removing, servicing and refitting of lubrication system from different types of engine.
6. Study different types of cooling system used in engine
7. Removing, servicing and refitting of Battery ignition system
8. Removing, servicing and refitting of Sliding mesh gear box
9. Removing, servicing and refitting of constant mesh gear box
10. Removing, servicing and refitting of synchromesh ignition system
11. Study Modern vehicle and its engine system.

AT305- LAB-AUTO TOOLS & EQUIPMENTS

Teaching Scheme(Practical)	Examination Scheme
Credit : 3	Internal Assessment: 25 Marks
Practical : 6 Hrs/Batch/Week	External Exam: 25 Marks (Duration 2.00hrs)
	Total Marks : 50 Marks

1. Experiment on Engine analyzer
2. Experiment on timing lighter and dwell tech meter
3. Experiment on injector tester
4. Experiment on spark plug cleaning and testing machine
5. Experiment on coil and condenser tester and use of multi meter
6. Experiment on wall refacing and valve seat cutting.
7. Use of hydrometer, Battery tester, Battery charger.
8. Experiment on hot patch clamp.
9. Study experiment on F.I. pump testing machine.
10. Fitting and removing of bearing on hydraulic press and arbores press.
11. Experiment on Gas welding, soldering, Brazing
12. Study experiment on wheel alignment and balancing
13. Study experiment on hydraulic hoist
14. Visit

AT306 - LAB-AUTOMOBILE ENGINE TECHNOLOGY

Teaching Scheme(Practical)	Examination Scheme
Credit : 3 Practical : 6 Hrs/Batch/Week	Internal Assessment: 25 Marks External Exam: 25 Marks (Duration 2.00hrs) Total Marks : 50 Marks

1. Removing, servicing and refitting of carburetor from single cylinder engine.
2. Removing, servicing and refitting of carburetor from engine assembly
3. Removing, servicing and refitting of carburetor from spark plug & Injector
4. Removing, servicing and refitting of piston assembly, piston rings etc.
5. Removing, servicing and refitting of timing gears
6. Study different types of engine specification
7. Study different types of automobile fuels and its effect on engines.
8. Study the exhaust system of automobile engine
9. Study the emission gases of automobile engine
10. Visit in automobile Workshop

GENERAL EDUCATION COMPONENT

AT307 - INDUSTRIAL ETHICS & SAFETY MANAGEMENT

Teaching Scheme(Theory)	Examination Scheme
Credit : 4 Lecture : 4 Hrs/Week Total Count : 60 Hrs/Semester	Internal Assessment: 20 Marks End Semester Exam: 80 Marks (Duration 3.00 hrs) Total Marks : 100 Marks

Course Objectives:

1. To create awareness on professional ethics and Human Values
2. To create awareness on Engineering Ethics providing basic knowledge about engineering Ethics, Variety of moral issues and Moral dilemmas, Professional Ideals and Virtues.
3. To provide basic familiarity about Engineers as responsible Experimenters, Research Ethics, Codes of Ethics, Industrial Standards
4. To inculcate knowledge and exposure on Safety and Risk, Risk Benefit Analysis and have an idea about the Collective Bargaining, Confidentiality, Professional, Employee, Intellectual Property Rights
5. To have an adequate knowledge about MNC„s, Business, Environmental, Computer Ethics, Honesty, Moral Leadership, sample Code of Conduct.

UNIT I : HUMAN VALUES 12 Hrs

Morals, values and Ethics – Integrity – Work ethic – Service learning – Civic virtue – Respect for others – Living peacefully – Caring – Sharing – Honesty – Courage – Valuing time – Cooperation – Commitment – Empathy – Self-confidence – Character – Spirituality – Introduction to Yoga and meditation for professional excellence and stress management.

UNIT II : ENGINEERING ETHICS: 15 Hrs

Senses of „Engineering Ethics" – Variety of moral issues – Types of inquiry – Moral dilemmas – Moral Autonomy – Kohlberg"s theory – Gilligan"s theory – Consensus and Controversy – Models of professional roles – Theories about right action – Self-interest – Customs and Religion – Uses of Ethical Theories.

UNIT –III ENGINEERING AS SOCIAL EXPERIMENTATION: 09 Hrs

Engineering as Experimentation – Engineers as responsible Experimenters – Codes of Ethics – A Balanced Outlook on Law.

UNIT-IV: SAFETY, RESPONSIBILITIES AND RIGHTS: 12 Hrs

Safety and Risk – Assessment of Safety and Risk – Risk Benefit Analysis and Reducing Risk – Respect for Authority – Collective Bargaining – Confidentiality – Conflicts of Interest – Occupational Crime – Professional Rights – Employee Rights – Intellectual Property Rights (IPR) – Discrimination.

UNIT V GLOBAL ISSUES: **12 Hrs**

Multinational Corporations – Business Ethics - Environmental Ethics – Computer Ethics - Role in Technological Development – Engineers as Managers – Consulting Engineers – Engineers as Expert Witnesses and Advisors – Honesty – Moral Leadership – Sample Code of Conduct.

Course Outcomes

1. Students understand the core values that shape the ethical behavior of an engineer and Exposed awareness on professional ethics and human values.
2. The students will understand the basic perception of profession, professional ethics, various moral issues & uses of ethical theories
3. The students will understand various social issues, industrial standards, code of ethics and role of professional ethics in engineering field.
4. The students will be aware of responsibilities of an engineer for safety and risk benefit analysis, professional rights and responsibilities of an engineer.
5. The students will acquire knowledge about various roles of engineers in variety of global issues and able to apply ethical principles to resolve situations that arise in their professional lives

Text Books

1. Professional Ethics and Human Values by V. S. SENTHILKUMAR
2. A Textbook On Professional Ethics And Human Values by R. S. Naagarazan

AT308 – ENVIRONMENT SCIENCE

Teaching Scheme(Theory)	Examination Scheme
Credit : 4	Internal Assessment: 20 Marks
Lecture : 4 Hrs/Week	End Semester Exam: 80 Marks (Duration 3.00 hrs)
Total Count : 60 Hrs/Semester	Total Marks : 100 Marks

Objectives

(a) Creating the awareness about environmental problems among people.

(b) Imparting basic knowledge about the environment and its allied problems.

(c) Developing an attitude of concern for the environment.

(d) Motivating public to participate in environment protection and environment improvement.

Syllabus

Chapter I : The Multidisciplinary nature of environmental studies 3 Hrs.

Definition, scope and importance, Need for public awareness.

Chapter II : Social Issues and the Environment 12 Hrs.

From Unsustainable to Sustainable development, urban problems related to energy, Water conservation, rain water harvesting, watershed management, Resettlement and rehabilitation of people; its problems and concerns. Environmental ethics: Issues and possible solutions, Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Wasteland reclamation, Consumerism and waste products, Environment Protection Act, Air (Prevention and Control of Pollution) Act, Water (Prevention and Control of Pollution) Act, Wildlife Protection Act, Forest Conservation Act, Issues involved in enforcement of environmental legislation, Public awareness.

Chapter III : Human Population and the Environment 10 Hrs

Population growth, variation among nations, Population explosion - Family Welfare Programme, Environment and human health, Human Rights, Value Education, HIV / AIDS, Women and Child Welfare, Role of Information Technology in Environment and human health

Chapter IV: Natural resources: 12 Hrs.

Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.

Food resources : World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer - pesticide problems, water logging, salinity, Energy resources : Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources,

Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification. Role of an individual in conservation of natural resources. Equitable use of resources for sustainable lifestyles.

Chapter V: Eco-systems **12 Hrs.**

Concept of an ecosystem, Structure and function of an ecosystem., Producers, consumers and decomposers, Energy flow in the ecosystem, Ecological succession, Food chains, food webs and ecological pyramids, Introduction, types, characteristic features, structure and function of the following ecosystem :-Forest ecosystem- Grassland ecosystem- Desert ecosystem- Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

Chapter VI: Environmental Pollution **11 Hrs**

Definition, Causes, effects and control measures of:-Air pollution- Water pollution- Soil pollution- Marine pollution- Noise pollution- Thermal pollution- Nuclear hazards.

Solid Waste Management: Causes, effects and control measures of. Role of an individual in prevention of pollution, Disaster management: floods, earthquake, cyclone and landslides.

Text Books

1. Environmental Science Jan 2006 by Y.K. Singh
2. Environmental Studies: Third Edition Paperback – Nov 2015 by R. Rajagopalan

AT309 – LAB-INDUSTRIAL ETHICS & SAFETY MANAGEMENT

Teaching Scheme(Practical)	Examination Scheme
Credit : 2 Lecture : 4 Hrs/Week	Internal Assessment: 25 Marks End Semester Exam: 25 Marks (Duration 2.00 hrs) Total Marks : 50 Marks

Study Experiments

1. Study of Yoga and meditation for professional excellence and stress management.
2. Study of the work and Uses of Ethical Theories.
3. Study of Codes of Ethics
4. Study of professional roles of engineers in different sector
5. Study of Professional Rights of humans in industry
6. Study of Environmental Ethics
7. Study of Technological Development in industry
8. Study of Multinational Corporations case studies
9. Industrial Visit

AT310 – LAB- ENVIRONMENT SCIENCE

Teaching Scheme(Practical)	Examination Scheme
Credit : 2 Lecture : 4 Hrs/Week	Internal Assessment: 25 Marks End Semester Exam: 25 Marks (Duration 2.00 hrs) Total Marks : 50 Marks

Study Experiments

1. Study of rain water harvesting.
2. Study of ozone layer depletion
3. Study of Population growth and its effect on environment
4. Study of Role of Information Technology in Environment and human health
5. Study of Natural resources : Benefits and problems
6. Study of Structure and function of an ecosystem
7. Study of Air Pollution and its effect on humans and environment
8. Study of Water Pollution and its effect on humans and environment
9. Study of Soil Pollution and its effect on humans and environment
10. Study of Solid Waste Management

DR.BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY, AURANGABAD {MS}

Course Structure of S.Y. Bachelor of Vocational (SEMESTER – IV)

(Automobile Technology)

SEMESTER – IV				Marks		
Paper Code	Title	No. of Credit	Hrs./ Week	Internal (CIA)	External (ESE)	Total
Skill Development Components						
AT401	Two Wheeler Servicing	3	3	15	60	75
AT402	Four Wheeler Servicing	3	3	15	60	75
AT403	Automobile Transmission System	3	3	15	60	75
AT404	Lab-Two Wheeler Servicing	3	6	25	25	50
AT405	Lab-Four Wheeler Servicing	3	6	25	25	50
AT406	Lab-Automobile Transmission System	3	6	25	25	50
General Education Components						
AT407	Business Communication	4	4	20	80	100
AT408	Personality Development	4	4	20	80	100
AT409	Lab-Business Communication	2	4	25	25	50
AT410	Lab-Personality Development	2	4	25	25	50
		30	43	210	465	675

SKILL DEVELOPMENT COMPONENT

AT401-TWO WHEELER SERVICING

Teaching Scheme(Theory)	Examination Scheme
Credit : 3	Internal Assessment: 15 Marks
Lecture : 3 Hrs/Week	End Semester Exam: 60 Marks (Duration 3.00hrs)
Total Count : 45 Hrs/Semester	Total Marks : 75 Marks

Objective

The student will be made to learn

1. To understand the garage ,service station and specialist repair shop setup and environment
2. know the requirement of tools &equipment used in garage, service station and specialist repair shop & power tools
3. Study the layout of garage, service station and specialist repair shop

Chapter I - Introduction 04 Hrs

Definition of Automobile - History of Automobile – Short description of Automobile in INDIA – Concept of employability - Major two wheeler companies in INDIA – Types of two wheelers - Case study of different types of two Wheelers

Chapter II - Chassis of Two Wheelers 06 Hrs

Definition for chassis – Need for chassis – Materials used for frame - Types of chassis used in two wheelers – Under bone – Double cradle – Diamond type – Delta box frame – Components to be mounted on chassis

Chapter III - Suspension 05 Hrs

Need of suspension - Types of suspension –Working of Conventional suspension - Mono suspension

Unit IV - Brakes & Wheels 05 Hrs

Brakes and its types- sources for brakes- mechanical brakes-pneumatic brakes- hydraulic brakes Disk brake-Drum brake-Wheel-Tire.

Unit V – Basic Checkup 06 Hrs

Identify the parts & general servicing of Two Wheeler- washing- cleaning- oiling- greasing and lubricating- Tracing the A.C /D.C electrical circuit in a two wheeler- checking horn- head light indicator and replacing if necessary.

Unit VI – Engine Assembly **07 Hrs**

Dismantling the unserviceable engine- cleaning and inspecting the parts- checking engine bore piston rings- connecting rod- bearings- crankshaft- assembling all the parts and measures the gaps. Engine Timing setting and Valve Timing setting of Engine.

Unit VII - Clutch Assembly 06 Hrs

Adjusting clutch lever free play- removing clutch assembly from Two-wheeler- cleaning and inspecting parts. Replacing defective parts. Fitting clutch assembly. Repair work of Automatic clutch and automatic transmission used in motor rakes.

Unit VIII: Two Wheeler workshop structure & its Layout **06 Hrs**

Layout of two wheeler workshop, Importance of maintenance – general maintenance schedule –Servicing of two wheeler – periodic checkups - structure of servicing and maintenance workshop- first aid-management of two wheeler workshop.

Outcomes

The student will be able to

1. understand the garage ,service station and specialist repair shop setup and environment
2. Uses of tools & equipment used in garage, specialist repair shop & power tools
3. Understand layout of garage, service station and specialist repair shop

Reference Books

1. Basic Automotive Service [2&3 wheeler], 2010, NIMI, Government of India Chennai
2. Tony Foale, 1996, Two wheeler Motorcycle Handling and Chassis Design, Spain.
3. Dennis Bailey and Keith Gates, 2009, Bike Repair & Maintenance [For Dummies], Wiley Publishing, Canada
4. Barry Hollembeak, 2011, Automotive Electricity and Electronics Classroom and Shop Manual, Pack Today Technician Publishing, USA
5. Tom Denton, 2004, Automotive Electrical and Electronic System, ELSEVIER,UK 6. Service Manuals of Manufacturers of Indian Two & Three wheelers.

AT402-FOUR WHEELER SERVICING

Teaching Scheme(Theory)	Examination Scheme
Credit : 3	Internal Assessment: 15 Marks
Lecture : 3 Hrs/Week	End Semester Exam: 60 Marks (Duration 3.00hrs)
Total Count : 45 Hrs/Semester	Total Marks : 75 Marks

OBJECTIVES

The student will be made to learn

1. Student must get conversant will all types of repair, maintenance and overhauling of four wheeler vehicles.

2. Student should be able to handle basic engineering equipments and measuring instruments.

Chapter I: SAFETY **03 Hrs**

General precautions to be observed in workshop or garage, Handling of different equipments.

Chapter III: ENGINE **04 Hrs**

Types of engines, Technical terms used for engine, Construction and working of four stroke cycle engine Cylinder arrangement

Engine Parts: Cylinder block, Cylinder Head, Piston, Connecting rod, Crank Shaft, Crank Case, Valves, Cam Shaft, Valve Timing Diagram, Oil Chamber, Flywheel ect.

Chapter IV: DIFFERENT TYPES OF SYSTEM IN ENGINES **12 Hrs**

Fuel Systems: Types of fuel feed systems carburetor types and working, circuits of carburetor, faults and remedies.

Cooling System: Types of cooling system, air cooled maintenance and repairs of cooling system.

Lubrication System: types of lubrication and working of petroil Lubrication (Vaporized lubrication) and pressure feed lubrication.

Ignition System: Types of ignition system, magneto ignition and coil ignition, parts of ignition system i.e. C.B. points, ignition coil, spark plugs etc. Intake and Exhaust system: Air cleaner, types of silencer mufflers.

Chapter V: SUSPENSION AND STEERING SYSTEM 06 Hrs

Function, suspension used for four wheeler, parts of suspension systems, Types of steering, handle and its fitting adjustments, hubs, bearing adjustments, Front & Rear wheel Suspension

Chapter VI: BRAKES **07 Hrs**

Types of brakes system, Hydraulic brakes and mechanical brakes, Internal expanding and external contracting brakes, parts of brakes, faults, and maintenance.

Chapter VI: Air Conditioning System **07 Hrs**

Introduction, Air Conditioning Component, Service & Repair Techniques

Chapter VII: SERVICING AND MAINTENANCE **06 Hrs**

Cleaning and greasing method, shop layout and conditions regarding illumination ventilation cleanliness, Maintenance schemes of four wheelers.

Outcomes

The student will be able to

1. Understand & explain types of repair, maintenance and overhauling of four wheeler vehicles.
2. Used Student should be able to handle basic engineering equipments and measuring instruments.

Reference Books

1. Automobile Engineering Vol 2 by K.M. Gupta
2. Automobile Engineering by babu & Singh
3. Automobile Mechanics Paperback – 2019 by A. K. Babu
4. Internal Combustion Engines by V Ganesan

AT403- AUTOMOBILE TRANSMISSION SYSTEM

Teaching Scheme(Theory)	Examination Scheme
Credit : 3	Internal Assessment: 15 Marks
Lecture : 3 Hrs/Week	End Semester Exam: 60 Marks (Duration 3.00hrs)
Total Count : 45 Hrs/Semester	Total Marks : 75 Marks

Objectives

The student will be made to learn

1. The need for transmission in an automobile
2. How the engine power is modified and transmitted to the road wheel
3. Functions of the transmission different configurations of transmission in MT and ATs.
4. New developments in the transmissions

Chapter I: Clutch 08 Hrs

Introduction, function, necessity, types of clutches and their working principles, wet and dry clutches , components of clutch system, parts of clutch, operating mechanism of clutch (hydraulic, mechanical, vacuum assisted , air pressure assisted), fluid flywheel, torque converter

Chapter II: Gear Box 08 Hrs

Introduction, Types of gearboxes- constant mesh, sliding mesh, synchromesh gear box, Industrial gearbox, differential gearbox, Gear Train

Chapter III: Propeller Shaft and U Joints 08 Hrs

Use of propeller shaft, material and construction, use and types of U joints, slip joint, universal coupling, hatchkich and torque tube.

Chapter IV: Final Drive and Differential 10 Hrs

Types of drive (front, rear and four wheels), function of final drive types of final drives. Function, principle, necessity, construction of differential, , types of rear axle.

Chapter V: Advance Mechanism 08 Hrs

Automotive transmission, Hybrid transmission, Electric vehicle transmission, distributed electric drive, Difference between different transmission systems

Chapter VI: Cast Studies in transmission system 03 Hrs

Any Three case studies in transmission system

Outcomes

The student will be able to

1. Understand for transmission in an automobile
2. understand engine power is modified and transmitted to the road wheel
3. Understand and explain Functions of the transmission different configurations of transmission In MT and ATs.
4. Explain New developments in the transmissions

Reference Books

1. Automobile Engineering Vol 2 by K.M. Gupta
2. Automobile Engineering by babu & Singh
3. Automobile Mechanics Paperback – 2019 by A. K. Babu
4. Internal Combustion Engines by V Ganesan

AT404 - LAB- TWO WHEELER SERVICING

Teaching Scheme(Practical)	Examination Scheme
Credit : 3 Practical : 6 Hrs/Batch/Week	Internal Assessment: 25 Marks External Exam: 25 Marks (Duration 2.00 hrs) Total Marks : 50 Marks

1. Case study of types of two Wheelers
2. Removing and Refitting of two wheeler chassis
3. Removing, servicing and refitting of any one types of suspension system.
4. Removing, servicing and refitting of drum break
5. Removing, servicing and refitting of disk break
6. Removing, servicing and refitting of tyre & tube
7. Identify the parts & General servicing of Two Wheeler
8. Identify the different parts of electrical system of two wheeler
9. Removing, servicing and refitting of clutch
10. Study the two wheeler servicing center
11. Two Wheeler Service center visit

AT405 - LAB- FOUR WHEELER SERVICING

Teaching Scheme(Practical)	Examination Scheme
Credit : 3 Practical : 6 Hrs/Batch/Week	Internal Assessment: 25 Marks External Exam: 25 Marks (Duration 2.00hrs) Total Marks : 50 Marks

1. Study the General precautions to be observed in workshop or garage.
2. Study the different tools and equipments used in four wheeler servicing
3. Study the different parts of engine
4. Removing, servicing and refitting four wheeler engine assembly
5. Removing, servicing and refitting cooling system
6. Removing, servicing and refitting ignition system
7. Removing, servicing and refitting fuel delivery system
8. Removing, servicing and refitting suspension system
9. Removing, servicing and refitting mechanical break system
10. Understand the total four wheeler maintenance and testing in modern vehicle

AT406 - LAB- AUTOMOBILE TRANSMISSION SYSTEM

Teaching Scheme(Practical)	Examination Scheme
Credit : 3 Practical : 6 Hrs/Batch/Week	Internal Assessment: 25 Marks External Exam: 25 Marks (Duration 2.00hrs) Total Marks : 50 Marks

1. Removing, repairing, refitting and setting of clutch.
2. Removing and refitting of propeller shaft
3. Servicing of slip joint and universal joint
4. Removing repairing, and refitting of differential
5. Experiment on wheel alignment
6. Removing, repairing, refitting and setting Tyre & Checking its rotation
7. Overhauling of various types of steering gear boxes.
8. Study of power steering System
9. Removing and refitting of front & rear axles.
10. Workshop Visit

GENERAL EDUCATION COMPONENT

AT407 – BUSINESS COMMUNICATION

Teaching Scheme(Theory)	Examination Scheme
Credit : 4	Internal Assessment: 20 Marks
Lecture : 4 Hrs/Week	End Semester Exam: 80 Marks (Duration 3.00 hrs)
Total Count : 60 Hrs/Semester	Total Marks : 100 Marks

Course Objectives

The objectives of this course are:

1. To provide an overview of Prerequisites to Business Communication.
2. To put in use the basic mechanics of Grammar.
3. To provide an outline to effective Organizational Communication.
4. To underline the nuances of Business communication.
5. To impart the correct practices of the strategies of Effective Business writing.

UNIT – I Communication 08 Hrs

Communication-Defining communication, Process of communication, Communication Model, Objectives of communication, Principles of communication, Importance of Business communication, Importance Feedback,

UNIT – II Channels of communication **10 Hrs**

Channels of communication- Introduction, Types of communication, Dimensions of communication, Barriers to communication Verbal, Non-Verbal, Formal, Informal communication.

UNIT – III Business writing **10 Hrs**

Fundamental of Business writing, Format of Business, Types of Business letter, Inquiry letter, complaint letter Persuasive letter, Proposal, Report Writing.

UNIT – IV Letters and Messages 10 Hrs

Employment Messages Writing Resume, Application letter, writing the opening paragraph, writing the closing paragraph, summarizing

UNIT – V Spoken Skills **10 Hrs**

Spoken skills Conducting Presentation, Oral presentation, Debates, Speeches, Interview, Group Discussion, English Pronunciation, Building Vocabulary.

UNIT-VI Listening Skills **12 Hrs**

Barriers to Effective Communication and ways to overcome them,

Listening: Importance of Listening, Types of Listening , Barriers to Listening and overcoming them, Listening situations, Developing Listening Skills,

Books Recommended:

1. Bovee, Courtland, John Thill & Mukesh Chaturvedi. Business Communication Today: Dorling kindersley, Delhi
2. Kaul, Asha: Business Communication: Prentice-Hall of India, Delhi
3. Monippally, Matthukutty M. Business Communication Strategies. Tata McGrawHill Publishing Company Ltd., New Delhi
4. Sharma, Sangeeta and Binod Mishra. Communication Skills for Engineers and 1. Scientists: PHI Learning Pvt. Ltd., New Delhi

Course Outcomes

On completion of this course, the students will be able to

1. To be familiar with the complete course outline/Course Objectives/Learning Outcomes/ Evaluation Pattern & Assignments
2. To participate in an online learning environment successfully by developing the implication-based understanding of Paraphrasing, deciphering instructions, interpreting guidelines, discussion boards & Referencing Styles.
3. To demonstrate his/her ability to write error free while making an optimum use of correct Business Vocabulary & Grammar.
4. To stimulate their Critical thinking by designing and developing clean and lucid writing skills.
5. To demonstrate his verbal and non-verbal communication ability through presentations.

AT408 - PERSONALITY DEVELOPMENT

Teaching Scheme(Theory)	Examination Scheme
Credit : 4	Internal Assessment: 20 Marks
Lecture : 4 Hrs/Week	End Semester Exam: 80 Marks (Duration 3.00 hrs)
Total Count : 60 Hrs/Semester	Total Marks : 100 Marks

Objectives:

1. To make the students aware about the dimensions and importance of effective personality.
2. To understand personality traits and formation and vital contribution in the world of business
3. To make the students aware about the various dynamics of personality development.

UNIT 1 : Introduction: **8 Hrs**

· Meaning and Definition of Personality. · Factors affecting Personality Development: Biological, Home Environment and Parents, School Environment and Teachers, Peer Group, Sibling Relationships and Mass Media, Cultural Factors, Spiritual Factors, Public Relations.

UNIT 2: Personality Traits. **12 Hrs**

· Meaning and Definition: Personality Traits. · Developing Positive Personality Traits: Attitude: Factors that determine Attitude, Benefits of Positive Attitude and Consequences of negative attitude, steps to build positive attitude. · Personality habits: Meaning and concept of habits. · Developing effective Habits: Behaviors and Character. Being Proactive / Creative and Innovative Beginning with the end in mind putting first things first with determination, discipline, clarity and concentration. Thinking Big and Winning Through: Action, Active, Facing Challenges, striving for success. Apologizing, Appreciating, Accepting feedback. Aiming high, enthusiasm, team building, setting goals, zeal and passion building.

UNIT 3 Pillars of personality development: **15 Hrs**

· Introspection: Meaning and importance, Views about Introspection, Self Introspection Skills. · Self Assessment: Meaning, importance, types and self assessment for students. · Self Appraisal: Meaning, importance, tips for self appraisal. · Self Development: Meaning, process of self development, Self Development Techniques, Use of self-development, Individual Development Plan. · Self Introduction: Meaning, tips for effective self introduction, Self Acceptance, Awareness, Self Knowledge, belief, confidence, criticism and self examination. · Defining

Success: Real or Imaginative, obstacles to success, factors and qualities that make person successful. · Concept of Failure: Reasons for failure. · Personal SWOT analysis & STAR analysis.

Unit 4 Self Esteem: 10 Hrs

· Self Concept: Meaning, definition and development · Self Esteem: concept, significance of Self esteem, types (positive, negative),characteristics of people of high and low Self esteem, steps for enhancing positive Self esteem. · Sigmund Freud ID, EGO and SUPER EGO Concepts. · Ego Management, What ego mismanagement can do. · Managing Egoistic insults

Unit 5: Personality Formation Structure: 15 Hrs

Mind mapping. · Competency mapping. · Developing interpersonal and group skills. Building positive relationships. · Strategies of gaining power and influence. · Enhancing personality through effective communication. · Intentional Communication. · Intentional Listening.

· Effective Speech: Writing and delivering and successful negotiation. · Understanding body language, projecting positive body language. · Manners and etiquettes.· Proper dressing for varied occasions.

Recommended Books:

1. Seven Habits Of Highly Effective People – Stephen Covey
2. You Can Win – Shiv Khera
3. Three Basic Managerial Skills For All – Hall Of India Pvt Ltd New Delhi
4. Hurlock Elizabeth B Personality Development Tata Mcgraw Hill New Delhi
5. Understanding Psychology: By Robert S Feldman. (Tata McGraw Hill Publishing)
6. Personality Development and Career management: By R.M.Onkar (S Chand Publications)
7. Social Psychology: By Robert S Feldman. (Tata McGraw Hill Publishing)
8. Mcgrath Eh Basics Management Skills For All Printish Hall Of India Pvt Ltd New Delhi
9. Essentials of Business Communication - Rajendra Pal and J. S. Korlhalli – Sultan Chand & Sons, New Delhi.
10. Business Communication (Principles, Methods and Techniques) Nirmal Singh - Deep & Deep Publications Pvt. Ltd., New Delhi
11. Effective Business Communication – H.Murphy.

AT410 – LAB- PERSONALITY DEVELOPMENT

Teaching Scheme(Theory)	Examination Scheme
Credit : 2 Lecture : 4 Hrs/Week	Internal Assessment: 25 Marks End Semester Exam: 25 Marks (Duration 2.00 hrs) Total Marks : 50 Marks

Study Practical

1. Study of Factors affecting Personality Development
2. Study of Relationships and Mass Media, Cultural Factors
3. Study of Benefits of Positive Attitude and Consequences of negative attitude
4. Study of team building, setting goals in organization
5. Study of Self Development Techniques
6. Study of Personal SWOT analysis & STAR analysis.
7. Study of Ego Management
8. Study of effective communication in organization
9. Study of how to Writing and delivering and successful negotiation in sales department
10. Visit of Organization

AT409 – LAB-BUSINESS COMMUNICATION

Teaching Scheme(Theory)	Examination Scheme
Credit : 2 Lecture : 4 Hrs/Week	Internal Assessment: 25 Marks End Semester Exam: 25 Marks (Duration 2.00 hrs) Total Marks : 50 Marks

Study Practical

1. Study of Importance of Business communication.
2. Study of Barriers to communication in verbal & Non Verbal
3. Study of different types of Business letter
4. Study of report writing and create one report of any situation in industry
5. Study of letters and write one application for the job interview with resume
6. Study of different paragraph and write one report on it.
7. Study of Debates
8. Study of Interview techniques
9. Study of Barriers to Effective Communication
10. Developing Listening Skills,

P.Priadarshini

Shri Amolak Jain Vidya Prasarak Mandal's Shrimati Shantabai Kantilal Gandhi Arts, Amolak Science, Panalal Hiralal Gandhi Commerce College * Kada, Tal.Ashti, Dist.Beed

Principal
Shri Amolok Jain Vidya Prasarak Mandal's
Shrimati Shantabai Kantilal Gandhi
Arts, Amolok Science, Panalal Hiralal
Gandhi Commerce College
Kada, Tal.Ashti, Dist.Beed

Dr. Babasaheb Ambedkar Marathwada University Aurangabad

Curriculum of

Advanced Diploma Course in Electrical

Under the Faculty of Science and Technology

Effective from

2019-2020 on words

20 21

Course Structure of Advanced Diploma in Electrical

Paper No	Paper Title	No. of Credits	Hrs. /Week	Marks		
				Internal (CIA)	External (ESE)	Total
Semester I						
General Education Component (A)						
ADE 101	Communication Skills – I	4	4	20	80	100
ADE 102	Computer Fundamentals - I	4	4	20	80	100
ADE 103	Lab - Communication Skills – I	2	4	25	25	50
ADE 104	Lab - Computer Fundamentals - I	2	4	25	25	50
Skill Development Components (B)						
ADE 105	Workshop Technology - I	3	3	15	60	75
ADE 106	Electrical Tools and Equipments	3	3	15	60	75
ADE 107	Electrical Appliances - I	3	3	15	60	75
ADE 108	Lab - Workshop Technology - I	3	6	25	25	50
ADE 109	Lab - Electrical Tools and Equipments	3	6	25	25	50
ADE 110	Lab - Electrical Appliances - I	3	6	25	25	50
	Total (Semester I)	30	43	210	465	675
Semester II						
General Education Component (A)						
ADE201	Communication Skills - II	4	4	20	80	100
ADE202	Computer Fundamentals - II	4	4	20	80	100
ADE203	Lab - Communication Skills - II	2	4	25	25	50
ADE204	Lab - Computer Fundamentals - II	2	4	25	25	50
Skill Development Components (B)						
ADE205	Workshop Technology - II	3	3	15	60	75
ADE206	Electrical Wiring	3	3	15	60	75
ADE207	Electrical Appliances - II	3	3	15	60	75
ADE208	Lab - Workshop Technology - II	3	6	25	25	50
ADE209	Lab - Electrical Wiring	3	6	25	25	50
ADE210	Lab - Electrical Appliances - II	3	6	25	25	50
	Total (Semester II)	30	43	210	465	675
Semester III						
General Education Component (A)						
ADE301	Industrial Ethics and Safety Management	4	4	20	80	100
ADE302	Environment Science	4	4	20	80	100

ADE303	Lab - Industrial Ethics and Safety Management	2	4	25	25	50
ADE304	Lab - Environment Science	2	4	25	25	50
Skill Development Components (B)						
ADE305	Electrical Machines - I	3	3	15	60	75
ADE306	Basic Electronics	3	3	15	60	75
ADE307	Electrical Motors	3	3	15	60	75
ADE308	Lab - Electrical Machines - I	3	6	25	25	50
ADE309	Lab - Basic Electronics	3	6	25	25	50
ADE310	Lab -Electrical Motors	3	6	25	25	50
	Total (Semester III)	30	43	210	465	675
Semester IV						
General Education Component (A)						
ADE401	Business Communication	4	4	20	80	100
ADE402	Personality Development	4	4	20	80	100
ADE403	Lab - Business Communication	2	4	25	25	50
ADE404	Lab - Personality Development	2	4	25	25	50
Skill Development Components (B)						
ADE405	Electrical Machines - II	3	3	15	60	75
ADE406	Industrial Wiring Mechanism	3	3	15	60	75
ADE407	Power System	3	3	15	60	75
ADE408	Lab -Electrical Machines - II	3	6	25	25	50
ADE409	Lab - Industrial Wiring Mechanism	3	6	25	25	50
ADE409	Lab – Power System	3	6	25	25	50
ADE410	**Total (Semester IV)**	30	43	210	465	675
Grand Total (Sem. I+II+III+IV)			172	840	1860	2700

Note : The minimum percentage for passing for each course code, practical examination and ESE is 40%, failing which He/She will get F grade for that course code.

Objectives

1. To make students familiar with shop discipline, layout of electrical shop, safety practice.

2 To acquire knowledge and skills about safety precautions while working.

3 To acquire knowledge about function and use of various electrical tools, equipments and accessories.

4 To acquire with properties and usage of different materials (conducting, insulating, wiring etc.)

5 To know about electrical symbols of commonly used electrical parts.

6 To develop knowledge about the wiring.

7 To get introduced to electrical shop to classify different tools machines and equipments

8 To understand how to work on electrical installation and shop floor safety precautions maintenance and upkeep

9 To become expertise in installation, repairing and maintenance of commercial / industrial / house wiring.

10 To obtain the detailed skills of reconditioning, repairing, charging and maintenance of various types of home appliances and batteries.

Skill Development Component

Syllabus of Advance Diploma Course in Electrical

ADE101 Communication Skills – I

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objectives

1. To understand techniques of effective communication.
2. To make aware about barriers to communications with ethical context.
3. To understand the process of Email communication and minutes of meeting.
4. To understand the concept and structure of report writing.
5. To develop and improve various skills like communication reading listening note making persuasive you speaking body language and gestures.

Syllabus

Unit I: Communication: Meaning, Nature, Importance and Purpose of Communication, Types of Communication, Process of Communication, Communication Network in an Organization, Strategy for Effective Communication, Verbal and Non-Verbal Communication, Barriers to Communication, Essentials of Good Communication, Communication Techniques. (12 Hrs.)

Unit II: The Process of Listening, Barriers to Listening, Types of Listening, Benefits of Effective Listening. (8 Hrs.)

Unit III: Spoken English in India, The Organs of Speech, Description and Articulation of English Speech Sounds, Syllables and Stress (Weak Forms, Intonation), Connected Speech, Spelling and Pronunciation, International Phonetic Alphabet Transcription of Received Pronunciation of Words as per the Oxford Advanced Learners Dictionary of H.S. Hornby. (15 Hrs.)

Unit IV: Presentation Skills, Interviews, Public Speaking, Preparing the Speech, Organizing the Speech, Special Occasion Speeches. (10 Hrs.)

Unit V: Written Communication (15 Hrs.)
Punctuation marks, Capitals, abbreviations, Grammar - parts of speech, Tenses, Vocabulary building, CS of good communication, language of business writing

Reference Books

1 Business Communication by Urmila Rai and SM Rai
2 Communication skills for Effective Management by Dr. Anjali Ghanekar
3 Developing Communication Skills by Krishna Mohan, Mera Banerjee

Course Outcomes

After conclusion of study the students will be able to -

1 To make effective impressive communication
2 To make communication in ethical manner
3 Capable to make persuasive digital communication
4 Capable to make abstract and summaries of proposal
5 Better presentation and communication using proper body language

ADE102 Computer Fundamentals – I

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. Understand the meaning and basic components of computer system.
2. To learn generation classification and application of computers.
3. Knowledge of computer equipment, including both hardware and software.
4. To learn input devices and output devices in detail.
5. Introduce students to information, needs, use, characteristics and level of information.
6. Use software MS Word to solve basic information system problems.

Syllabus

Unit I: Knowing Computer (15 Hrs.)

1. Introduction of computer
2. Basic applications of computer
3. Components of computer system : Input and output devices
4. Concept of hardware and software
5. Hardware and software
6. Concept of computing data and information
7. Concept of Internet, world wide web, popular search engines /search for content
8. Applications of IECT: e-governance, Entertainment 9.Mobile banking

Unit II : Computer Generation and Classification (12 Hrs.)

1. Generation of computers
2. Classification of computers
3. Mini, super Mini, Maxi computer
4. Distributed and parallel computers

Unit III : Operating System (13 Hrs.)

1.Introduction
2. Definition, need, functions
3. Types of operating system: Linux, Windows
4. The user interface : Task bar, Icons, Menu and running an application
5. Operating system simple setting : Changing system date and time, changing display properties, to add or remove a Windows component, adding and removing printers
6. File and directory management creating and renaming of files and directories

Unit IV : MS Word (20 Hrs.)

Working with Documents –Opening & Saving files, Editing text documents, Inserting, Deleting, Cut, Copy, Paste, Undo, Redo, Find, Search, Replace, Formatting page & setting Margins, Converting files to different formats, Importing & Exporting documents, Sending files to others, Using Tool bars, Ruler, Using Icons, using help.

Reference Books

1 Fundamental of information technology by Chetan Srivastava
2 Fundamental of Computer by v Rajaram
3 fundamental of programming by RK Jain
4 Microsoft Office 2016 Word Excel 1 note book volume 1 by Lalit Mali

Course Outcomes

After the completion of the course students will able to do –

1. Understand the concept of input and output devices of computer and how it works.
2. Understand the concept and structure types and design of operating system.
3. Understand the concept of data communication its model its forms and data communication channel.
4. Understand evolution of internet it's a application and its basic services.
5. Recognize when to use each of the Microsoft office program to create professional and academic document
6. Create and design Word document for general office use.

ADE103 Lab - Communication Skills – I

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25 Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. Listening comprehension : Listening and typing
2. Listening comprehension : listening and Sequencing of sentences
3. Reading comprehension and vocabulary : Fill in the blanks
4. Reading comprehension and vocabulary : Close exercises
5. Reading comprehension and vocabulary : Vocabulary building
6. Reading comprehension and vocabulary : Reading and answering questions
7. Speaking : Intonation and ear training
8. Speaking : Correct pronunciation and sound recognition
9. Speaking : Face to face conversation
10. Speaking : Telephone conversation

ADE104 Lab - Computer Fundamentals – I

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. To study input and output devices of computer system
2. To study different types of software of computer system for a daily applications
3. To study and understand different types of web browsers used as a search engine and its applications
4. To study applications of IECT: e-governance, Entertainment
5. To study different generation of Computer
6. Study of difference between different operating system used in a computer system
7. Study of Computer Windows applications and accessories like Notepad, paint and wordpad
8. To create Word document and insert text and picture
9. To create Word document using references, mailing and review
10. Create one report using Microsoft Word

ADE 105 Workshop Technology – I

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objectives

1. To study safety precautions.
2. To understand and identify the hand tools and instruments used in workshop.
3. To study and understand measuring skills of different parts
4. To learn about basics of Electrical.

Syllabus

Unit I: Safety Precautions and shock treatment (06 Hrs.)

Shop Discipline, Electrical shocks and procedure for separating person from contact with live wire, First Aid different methods of artificial respiration, Electric fire, Fire Extinguishers

Unit II: Fitting and bench work (09 Hrs.)

Necessity and importance of bench work, description and uses of different hand tools like holding tools tracking tools cutting tools drilling, boring and tapping and dying tools, scaping tools, marking tools like surface plates, angle plates, V blocks, tri -square scribers etc

Unit III: Metrology (09 Hrs.)

Introduction, concepts of measurements, measuring instruments such as scale, vernier micrometer, depth gauge, bore gauge, filler gauge, screw gauge, divider, Calliper, dial gauge, compression gauge, vacuum gauge

Unit IV: Introduction to Electricity (8 Hrs.)

Generation of electricity, Types of electricity, Effect of electricity and appliances, Different energy sources, EMF, potential difference, current, voltage, resistance, conductance, power, energy, specific resistance, energy billing for a month, direct current and alternating current

Unit V DC Circuits (5 Hrs.)

Ohm's law, Series CKT, Parallel ckt, series and parallel combination, types of electrical ckt

Unit VI Electric Cells (8 Hrs.)

Primary cell, wet cell, dry cell, battery, Li-ion battery, series and parallel connections of cells, Electronics Manufacturing Services, Secondary cells, Lead Acid, Cell, Discharging and recharging of cells, preparation of electrolyte, care and maintenance of secondary cells.

Reference books

1. Workshop Technology - volume 1 and 2 by Hajra and Chaudhari
2. Production Technology by R. K. Jain

3. Workshop Technology - volume 1 and 2 by Raghuvanshi
4.Workshop technology by Chapman
5. Basic Electrical Engineering, Ritu Sahdev, Khanna Publishing House

Course Outcomes

After successful completion of the course the student shall be able to

1) Acquire safety skills
2) Identify the hand tools and instruments
3) Gain measuring skills
4) Understand learn about basics of Electrical.

ADE 106 Electrical Tools and Equipments

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1) To understand the use of common tools
2) To understand the use of electrical tools
3) To understand the use of machines
4) To understand the use of tools and spanners

Syllabus

Unit II : Common tools (10 Hrs.)

Electrical tools, Pliers, Combination, side cutting, round nose, long nose, Screw drivers, connectors, electrical knife, Neon tester, test lamp, series test lamp, pincer, line dori, plumb bob, steel rule, Tenor saw, Hacksaw, Hammer, Symbols uses in Electrical technology, Reading of electrical drawing.

Unit I Electrical Tools (10 Hrs.)

Classification of tools, Electrical hand tools, Mechanical hand tools, Cutting and holding tools, other tools, Application of machines, Electrical knife with double blade, Crimping tools, Grease gun, Pipe cutter

Unit II Electric Hand drill machine (8 Hrs.)

Hack saw mini Hammer ball pen Hammer claw Hammer straight pain Hand drill machine with bit Ordinary Hammer tone, controlled speed DOR

Unit III. Power tools and Spanner (10 Hrs.)

Electric cutter grinder Hammer-chippers, Spanner box set Spanner set ring type Spanner set box type Spirit level Standard wire gauge Scissors Screw driver set Screw driver connector

Unit V Ammeter (7 Hrs.)

Ammeter A.C. and D.C., Analog Ammeter multi range A.C. D.C., Multimeter, Digital stop watch, Digital tachometer, Electrical Soldering iron.

Reference Books

1) Electrical Technology - H. Cotton
2) Study of Electrical Appliances and devices - K.B.Bhatia
3) Elements of Electrical Gadgets - K.B.Bhatia
4) Small Appliances Servicing - P.T. Brook Woll Jr.

Course Outcomes

1) Understand the use of common tools
2) Can use of electrical tools
3) Understand the basics and use of machines

ADE107 Electrical Appliances - I

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1) To understand the working principle and construction of common domestic appliances
2) To know the cause of faults in these appliances
3) To acquire skills of testing and repairs of appliances
4) To know the students about manufacturing of different appliances.

Syllabus

Unit : I Testing Equipments & basic control equipments (10 Hrs.)

Switch, fuse, earthing, line tester, electronic line tester, series test lamp for single phase, parallel test lamp for single phase, series test lamp for three phase.

Unit: II Electric iron (8 Hrs.)

Types of electric irons, ordinary, automatic, steam, spray, laundry

Unit: III Water purifier (10 Hrs.)

UV/RO, UV light effect on bacteria, reverses osmosis membrane process.

Unit : IV Torch (7 Hrs.)

Emergency Torch, Cells & batteries Miniature lamp type, Farmers torch

Unit : V Battary (10 Hrs.)

Fundamentals of batteries, different Types of batteries dry batteries, zinc chloride, lead acid and lithium Ion batteries construction and working, Battery, Tools for checking the battery, Capacity in AH & KWH, Battery Charging, Safety Applications of battery.

Reference Books

1) Small Appliances Servicing - P.T. Brook Woll Jr.
2) How to repair small Appliances - Jack Darr
3) Maintenance of Domestic Appliances - R. B. Lal

Course Outcomes

To enable the students to

1) Understand the working principle and construction of common domestic appliances
2) Able to find faults in these appliances
3) Acquire skills of testing and repairs of appliances
4) Know the students about manufacturing of different appliances.

ADE 108 Lab - Workshop Technology - I

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. To Understand Personal protection basic injury prevention basic first aid safety signs for danger, warning & caution
2. To Study artificial respiration techniques of separating person in contact with & live wire
3. To study use of fire extinguishers
4. To draw neat sketch of bench grinder.
5. To prepare male and female part in fitting.
6. To study Ohms Law.
7. To study vernier micrometer.
8. To study screw gauge.
9. To arrange connections of resistance in series circuits and study of Resistance.
10. To arrange connections of resistance in parallel circuits and study of Resistance.
11. To study and different cells.

ADE 109 Electrical Tools and Equipments

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. To conduct exercise on drilling.
2. To conduct exercise on taping
3. To conduct exercise on Cutting
4. To conduct exercise on Electric cutter and grinder.
5. To study and draw sketches of power tools
6. To study and draw sketches of measuring tools
7. To study and draw sketches of hand tools
8. To study the technique of electric drilling.
9. To study AC and DC Ammeter.
10. To study Multimeter for measurement of various parameters.
11. To study soldering techniques on iron gun.

ADE 110 Lab - Electrical Appliances - I

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. To study of over load switch, MCB and its application
2. To arrange connections in series test lamp for single phase.
3. To arrange connections in parallel test lamp for single phase.
4. To study installation of RO.
5. Testing & repairing of RO.
6. Testing & repairing of emergency former torch.
7. Testing & repairing of heating iron.
8. Testing & repairing of thermocouple based iron.
9. Study construction maintenance of lead acid cell battery.
10. To study earthing techniques.

ADE201 Communication Skills – II

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. To understand techniques of effective communication
2. To make aware about barriers to communication with ethical context.
3. To understand the process of Email communication and minutes of meeting.
4. To understand the concept and structure of report writing 5. To develop and improve various skills like communication reading listening note making process speaking body language and gestures.

Syllabus

Unit: I Communication with media (18 Hrs.)

1. written media of communication
2. letters, notices, minutes, manual, leaflets, complaints and suggestions
3. job application
4. visual media of communication
5. slide presentations, picture and photographs, poster and advertisement
6. nonverbal media of communication

Unit: II Written Communication: reports (15 Hrs.)

1.Types of reports, characteristics of good reports
2. essential requisites of good report writing
3.planning the reports
4. outlining issues for analysis writing the reports

Unit: II Group communication (13 Hrs.)

1.Problems of group communication
2.Meeting
3. Advantages of meeting
4. Preparations of for meeting

Unit: IV Interview (14 Hrs.)

1.Purpose of interviews
2. Types of Interview
3.Employment Interview
4. Candidates Preparation
5. Questions Commonly asked in Interview
6. Role of Interviewer

Reference Books

1. Business communication by Urmila Rai and SM Rai
2. Communication skills for effective Management by Dr Anjali ghanekar
3. Developing communication skills by Krishna Mohan and Mira Banerjee

Course Outcomes

After completion of study the student will be able to do -

1. To make effective and impressive communication
2. To make communication in ethical manner
3. capable to make possessive digital communication
4. Capable to make abstract and summaries a proposal.
5. Better presentation and communication using proper body language.

ADE202 Computer Fundamentals – II

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. To learn generation classification and application of computer
2. Knowledge of computer equipment including both hardware and software
3. Learn memory and its types in detail
4. To introduce students to information its need use characteristics and level of information
5. Use of software MS Excel MS PowerPoint to solve basic information system problems.

Syllabus

Unit: I – Computer Generation, Languages (8 Hrs.)

1. Generation of Computers: First to Fifth, Types of Programming Languages, Machine Languages,
2. Assembler, linker, loader, interpreter, compiler

Unit: II Computer Memory (7 Hrs.)

1.Introduction
2. Types of memory : RAM , ROM, PROM, EPROM
3. Secondary Storage Devices (FD, CD, HD, Pen drive, DVD, Tape Drive, DAT)

Unit: III Spread Sheet (Excel) (15 Hrs.)

1.Introduction : elements of spreadsheet
2. Opening of spreadsheet, addressing of cell, printing of spreadsheets, saving workbooks
3.Manipulation of cells: entering text, numbers and dates, creating text, number and date series
4. Editing worksheet data, inserting and deleting rows, column, changing cell, height and width
5.Formulas and functions : using formulas, function

Unit: IV - MS Power point (15 Hrs.)

1.Basics : Opening and saving presentation ,
2. Creation of presentation : use of template, blank presentation, editing text
3.Inserting and deleting slides in a presentation
4. Preparation of slides : word table or an Excel worksheet, adding Clipart and picture art, inserting other objects, resizing and scaling an object
5. Presentation of slides: viewing a presentation
6.Setup for presentation
7. Printing slides and handouts

8. Slide show :running, transition and slide timings

Unit: V – Communications and collaborations (15 Hrs.)

1.Basics of email : what is an electronic mail, email addressing, using emails

2. Opening email, account Mailbox : inbox and outbox

3. email message: create, send, reply

4. Sorting and searching emails

5. Document collaboration

6. Instant messaging and collaboration

7. Using instant messaging

8. Instant messaging providers

Reference Books

1. Fundamental of information technology buy Chetan Srivastava

2. Fundamental of Computer bi V Rajaram

3. Fundamental programming by R. K. Jain

4. Microsoft Office 2016 Word Excel one notebook volume 1 by Lali Mali

Course Outcomes

1. Understand the concept of input and output devices of computer and how it works

2. To understand the concept and structure and types of designing operating system

3. Understand the concept of data communication its more its forms and that a communication channel.

4 Understand evolution of internet its application and its basic services.

5. Recognize when to use each of the Microsoft office program to create professional and academic document.

6. Create and design a word document for general office use.

ADE203 Lab - Communication Skills – II

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1.Listening comprehension : video 1
2. Listening competition: video 2
3. Listening comprehension : video 3
4. Reading comprehension: reading with proper pronunciation and reading part 1
5. Reading comprehension reading with proper pronunciation and reading part 2
6. Speaking CIFEL spoken English exercise volume 1
7. Speaking CIFEL spoken English exercise volume 2
8. Speaking: drilling: proper pronunciation of word
9. Speaking: drilling: proper pronunciation of sentence

ADE204 Lab - Computer Fundamentals – II

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. To study different elements of spreadsheets
2. To study manipulation of cells entering text number and dates creating test number and date series in Microsoft Excel
3. To study and apply different formulas and function in Microsoft Excel
4. Create one Excel sheet of result analysis of students
5. To study and apply creation in presentation in Microsoft Power Point
5. To study different types of charts, table used in Power Point presentation
6. To study presentation of slide create one presentation for college advertisement at global level
7. Create email id and send mail to friends about wishes 8. Create one loan purpose Power Point Presentation with Excel sheet

ADE205 Workshop Technology - II

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. To use & principle of different measuring electrical Instruments
2. To know various magnet & electromagnet.
3. To know various single phase and three phase transformer construction principle and transformer equation & small transformer rewinding.
4. To know various single phase motors, construction working principle, applications.

Syllabus

Unit: I – Measuring Instruments (8 Hrs.)

Introduction, types of measuring instruments, analog and digital, ammeter, voltmeter, wattmeter, multimeter, Ohm-meter, frequency meter, clip on meter, energy meter, tachometer, megger, earth resistance tester

Unit: II – Electromagnetism (12 Hrs.)

Introduction, types of magnets, basic magnetic terms, electromagnet, difference between permanent and electromagnet, magnetic rules, right hand rule, cork screw rule, end rule, dynamically, statically, mutual induction

Unit: III – Single Phase Transformer (8 Hrs.)

Working principle and Constructional features of a transformer and parts of transformer, Practical Transformer on No-Load, Equivalent Circuit Diagram of a Transformer, Losses in Transformer, Transformer Tests, Auto-transformer : Working of Auto-Transformer, Saving of Copper, Types of Transformer

Unit IV Three Phase Transformer (10 Hrs.)

Construction of three phase transformer and accessories of transformers such as Conservator, breather, Tap Changer (off load and on load), Three phase transformer Connection i.e. delta-delta, delta-star, star-delta and star-star, Star delta connections (relationship between phase and line voltage, phase and line current) Conditions for parallel operation of 3 phase Transformer, Cooling of Transformers, Difference between Power and Distribution Transformers

Unit V Lighting Effects of Current (13 Hrs.)

Lighting effect of electric current, filaments used in lamps, and Tube light, LED, their working and applications, Capacitors: Capacitor and its capacity, Concept of charging and Discharging of capacitors, Types of Capacitors and their use in circuits, Series and parallel connection of capacitors, Energy stored in a capacitor.

Reference Books

1) Electrical Machines by Mandhir Verma.
2) Engineering Thermodynamics by PK Nag; Tata McGraw Hill, Delhi.
3) Basic Engineering Thermodynamics by Roy Chaudhary; Tata McGraw Hill, Delhi.

Course Outcomes

1. Understand the student to use & principle of different measuring electrical Instruments
2. Understand the magnet & electromagnet.
3. Know various single phase and three phase transformer construction principle and transformer equation & small transformer rewinding.

ADE206 Electrical Wiring

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1) To identify and to use different tools used in wiring.
2) To understand the fuse and soldering wires.
3) To know about electrical symbols used in electrical parts.
4) To know about electrical house wiring.
5) To define single phase motors, construction working principle, applications.

Syllabus

Unit: I – Fuse and Soldering (8 Hrs.)

Introduction, common fusing material, miniature circuit breaker, (MCB), molded case circuit breakers (MCCB), earth leakage ckt breaker (ELCB), Soldering equipments, precautions

Unit: II – Common Electrical Accessories (12 Hrs.)

Electrical Accessories and their Uses, Switches and their types, Lamp holders and their types, Ceiling Rose, Pin Plug, Socket and Adopter, Fuse outlets and their types, Precautions for using Electrical Cables, Measurement of wires, Measurement of Cables, Types of wires, Types of Cables, Fire Alrm.

Unit: III – Domestic Wiring (13 Hrs.)

Meggar, Selection of the wiring system, Material Required for Wiring, Preparation for wiring, Methods of wiring, Domestic Wiring Methods, Advantages, Disadvantages, Uses and Precautions Regarding various Domestic wirings, I.E. or I.S. Rules Regarding wiring ,Tests for wiring as per I.E. Rules before supplying mains, General faults of Electrical Installations, Wattage of Lamp for various Uses, Location of Lamp points.

Unit: IV – Single Phase A. C. Motor (10 Hrs.)

Introduction, working principles, types of single phase motor, construction, working principles, speed control and change of DOR, lubricants, testing of single phase motors, fault finding and trouble shooting, study of data sheet and up keeping of motor

Reference Books

1) Electrical Technology - Edward Hughes
2) Electrical Technology - H. Cotton
3) Study of Electrical Appliances and devices - K.B.Bhatia
4) Elements of Electrical Gadgets - K.B.Bhatia

Course Outcomes

1) Able to understand the fuse and soldering wires.
3) Know about electrical symbols used in electrical parts.
4) Know about electrical house wiring.
5) Understand single phase motors, construction working principle, applications.

ADE207 Electrical Appliances - II

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1) To understand the working principle and construction of common domestic appliances
2) To know the cause of faults in these appliances
3) To acquire skills of testing and repairs of appliances
4) To know the students about manufacturing of different appliances.
5) To know various D.C. Motors construction, working principle & its application.

Syllabus

Unit: I – Unit : I Testing Equipments & basic control equipments (10 Hrs.)

Testing instruments Tester, Continuity tester, Test lamp, growlers Measuring Instruments R, V, I, W, KWH, IR, HZ, KVA Control equipments Control Switch, Fuse, MCB, Timer

Unit: II – Ordinary Blender/Mixer (8 Hrs.)

Lassi Maker, Food procedure, juicer Attachment, food procedure, mixer single speed three speed

Unit: III – Electrical Fans (10 Hrs.)

Different types of electrical fans Car fan/ cabin fan table fan, pedestal fan, wall mounting fan, Blow/sprinkler fan ceiling fan, exhaust fan

Unit: IV – UPS and Inverter (9 Hrs.)

Types of stabilizers inverter, Home protector, UPS, Online Offline VA capacity, selection, connections, Installations, working with block diagram

Unit: V – DC Motor (7 Hrs.)

Introduction of D.C. motor, working principle, construction, types of D.C. motors, necessity of starters, types of starters

Reference Books

1) Small Appliances Servicing - P.T. Brook Woll Jr.
2) How to repair small Appliances - Jack Darr
3) Maintenance of Domestic Appliances - R. B. Lal

Course Outcomes

To enable the students to

1) Understand the working principle and construction of common domestic appliances
2) Able to find faults in these appliances
3) Acquire skills of testing and repairs of appliances
4) Can define D.C. Motors construction, working principle & its application.

ADE208 Lab - Workshop Technology – II

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. To measure the power of single phase resistive load by V.I method
2. To test single phase energy meter with the help of standard wattmeter & stopwatch
3. Verification of target & development in current carrying coil in a magnetic field
4. Study of simple transformer test, continuity short circuit.
5. To measure the insulation resistance between winding to core of single-phase transformer
6. Practice on small / transformer rewinding & verify voltage and current ratio.
7. To measure current and voltage of a appliances
8. To calculate unknown resistance by V.I. Method
9. To calculate unknown resistance by Multimeter method
10. To study and installation of LED based modern lighting fixtures and decoration lighting

ADE209 Lab - Electrical Wiring

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. Identification and use of writing accessories.
2. Practice one installation of common electrical accessories such as switch, holder, plug on board.
3. Study of two lamps controlled by two independent single pole switches.
4. Practice of conduit and concealed on stair case wiring.
5. Installation and wiring connection of Fire Alarm.
6. Installation and wiring connection of MCB.
7. Practice of pipe & plate earthing.
8. Practical on electrical tube connection & testing fault & repair.
9. Measure the insulation resistance between winding to core of single-phase transformer.
10. Identification of starting and running winding of single phase motor by measuring resistance with the help of multimeter.
11. To study the parts of single phase motor, test capacitor by screw driver & multimeter method.

ADE210 Lab - Electrical Appliances - II

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. To measure R, V, I.
2. To calculate W, KWH.
3. Precautions while using measuring instruments IR, HZ.
4. Dismantling reassembling up keeping testing & repairs blender, juicer, grinder.
5. Dismantling reassembling up keeping testing & repairs mixer/food processor
6. Study construction maintenance of lead acid cell battery
7. Study, dismantling, reassembling, installation, testing and repairs ceiling fan
8. Study, dismantling, reassembling, installation, testing and repairs exhaust fan
9. Study, selection, testing & repairs, installation of UPS
10. Study, selection, testing & repairs, installation of inverters
11. Connection of D.C motor to suitable starter & measure current, voltage & speed

ADE 301 Industrial Ethics and Safety Management

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. To create awareness on professional ethics and human values.
2. To create awareness on engineering ethics providing basic knowledge and about engineering ethics variety of moral issues and moral Dil name is professional id as and virtue.
3. To provide basic family detail about engineer as a responsible experimental research ethics code of ethics industrial standard.
4. To inculcate knowledge and exposure of on safety and risk, risk benefits analysis and have an idea about the collective bargaining, confidentiality, Professional Employment and little property rights.
5. To have an adequate knowledge about a man sees business environment computer it takes honesty moral leadership sample code of conduct

Syllabus

Unit I Human Values (12 Hrs.)

Morals values and ethics, integrity, work ethic, service learning, Civic virtue, respect for others, living peacefully, caring, sharing, honesty, courage, valuing time, cooperation, commitment, empathy, self confidence, character, spirituality, introduction to yoga and meditation for professional excellence and stress management.

Unit II Engineering Ethics (15 Hrs.)

Senses of Engineering ethics, variety of moral issues, types of inquiry, moral dilemmas, moral autonomy, Kohelberg's theory, Gillgan's theory, consciousness and controversy model of professional roles theories about right action self interest customs and religion uses of ethical theories.

Unit III Engineering as a social experimentation (9 Hrs.)

Engineering as experimentation, Engineer as a responsible experimenter, codes of ethics, a balanced outlook on law.

Unit IV Safety Responsibilities and Rights (12 Hrs.)

Safety and risk, assessment of safety and risk, risk benefit, analysis and reducing risk, respect for authority, collective bargaining, confidentiality, conflicts of interest, occupational crime, professional rights and employee rights, Intellectual Property Rights, discrimination.

Unit V Global Issues (12 Hrs.)

Multi-National corporations, Business Ethics, environmental ethics, computer ethics, role in technological development, Engineers as managers, Consulting Engineers, Engineers as expert, witnesses and Advisors, honesty, moral relationship, sample code of conduct.

Reference Books

1 professional ethics and human values by fbs Senthil Kumar

2per textbook on professional ethics and human values by R S Nagarajan

Course Outcomes

1. Student understand the core values that shape the ethical behavior of an engineer and expose awareness on professional ethics and human values.
2. The student will understand the basic perception of profession professional ethics various moral issues and use of ethical theories.
3. The student will understand various social issues in the Steel standard code of ethics and rule of professional ethics in engineering field.
4. The students will be aware of responsibility of an engineer for safety and risk benefit analysis professional rights and responsibilities of an engineer.
5. The students will adequate acquire knowledge about various roles of engineers in variety of global issues and able to apply article principle to resolve the situation that arises in their professional lives.

ADE 302 Environment Science

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. Creating the awareness about environmental problems among people
2. Imparting basic knowledge about the environment and its allied problems
3. Developing and attitude of concern for the environment
4. Motivating people to participate in Environment protection and environment improvement

Syllabus

Unit 1 The Multidisciplinary Nature of Environmental Studies (3 Hrs.)

Definition scope and importance need for public awareness

Unit 2 Social Issues and the Environment (12 Hrs.)

From unsustainable to sustainable development, urban problems related to energy, water conservation, rain water harvesting, watershed harvesting, resettlement and rehabilitation of people, its problems and concerns, environmental ethics, issues and possible solutions, climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and Holocaust, wasteland reclamation, consumerism and waste products, environmental protection act, water act, Wildlife Protection Act, forest conservation act, issues involved in enforcement of environmental, legislation public awareness,

Unit 3 Human Population and Environment (10 Hrs.)

Population growth, variation among Nations, population explosion, Family Welfare programs, environment and human health, Human Rights, value education, HIV/ AIDS, women and child welfare, role of information technology in environment and human health.

Unit 4 Natural Resources (12 Hrs.)

Water resources, use and over utilisation of surface and groundwater, floods, droughts, conflicts over Water Dam, benefits and problems,

Food resources- world food problems, change caused by agriculture and overgrazing effects of modern, agriculture fertilizers, pesticides problem, water logging, salinity, energy resources, growing energy needs renewable and nonrenewable energy sources, use of alternative energy sources

Land resources - land as a resource, Land Degradation, man induced landslides, soil erosion and desertification, role of an individual in conservation of natural resources, equitable use of resources for sustainable lifestyles.

Unit 5 Ecosystems (12 Hrs.)

concept of an ecosystem, structure and function of an ecosystem, producers consumers and decomposers, energy flow in the ecosystem, ecological succession, food chains, food Webs and ecological pyramids, introduction, types, characteristics features structure and function of the following ecosystem- forest ecosystem, grassland ecosystem, desert ecosystem, aquatic ecosystem.

Unit 6 Environmental Pollution (11 Hrs.)

Definition, causes effects and control, measures of air pollution, water pollution, soil pollution, marine pollution, noise pollution, Thermal Pollution, nuclear hazards,

Solid waste management- cause, effects and control measures, role of an individual prevention of pollution, disaster management, floods, earthquakes, cyclones and landslides.

Reference Books

one environmental science bike why casing to environmental studies 3rd edition paperback by R Raj Gopalan

ADE 303 Lab - Industrial Ethics and Safety Management

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. Study of yoga and meditation for professional excellence and stress management
2. Study of work and uses of ethical theories
3. Study of course of ethics
4. Study of professional roles of engineers in different sector
5. Study of professional rights of human in industry
6. Study of environmental ethics
7. Study of technological development in industry
8. Study of multinational corporation case studies
9. Industrial visit

ADE 304 Lab - Environment Science

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. Study of rainwater harvesting
2. Study of ozone layer depletion
3. Study of population growth and its effect on environment
4. Study of role of information technology in environment and human health
5. Study of natural resources benefits and problems
6. Study of structure and function of an ecosystem
7. Study of air pollution and its effect on human and environment
8. Study of water pollution and its effect on human and environment
9. Study of soil pollution and its effects on humans and environment
10. Study of solid waste management

ADE 305 Electrical Machines - I

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objectives:

1. To learn safety measures from Electrical hazards.
2. To have Basic knowledge of Electrical Instruments.
3. To familiarize with the Electrical Machines.
4. To study Electrical Accessories and wiring techniques.

Unit I: Electrical Panels (13 Hrs.)

Working principle and components of electrical panels, transformers and generators, operational characteristics of electrical panels and power distribution through the same advance troubleshooting in electrical panels, transformers and generators

Unit II: Electrical Circuits (15 Hrs.)

Concepts of electrical circuits which includes properties and functions of RCL circuits, inductive DC, AC circuits, details of capacitors, inductors and their actions in DC, AC circuits. Type of connections and tests to be carried out in capacitive, inductive AC and DC circuits, Advantages of three phase supply over single phase line and phase voltage, current and power in a 3 phase circuits with balanced and unbalanced.

Unit III: Heavy Machineries (13 Hrs.)

Detailed concept of electrical installation sequence of electrical panels, transformers, DGs, cables, cranes and electrification of Machineries, Method of erection of an electrical panel and Tower Crane.

References:

1. Basic Engineering Thermodynamics by Roy Chaudhary; Tata McGraw Hill, Delhi.
2. Fundamentals of Electrical Engineering by Sahdev, Uneek Publication, Jalandhar.

Course Outcomes:

1. Understands the concept of electric motor and transformer.
2. Have knowledge of basic electrical machines
3. Have knowledge of various wiring techniques used.

ADE 306 Basic Electronics

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1) To be exposed to the characteristics of basic electronic devices

2) To maintain and improve their technical competence through lifelong learning including entering and succeeding in an advanced degree program in a field such as Engineering Science or Business

Syllabus

Unit I Basic Electronic Component (10 Hrs.)

Resistors, types of resistors, construction and color coding, Capacitors, types of capacitor and their construction, Inductor and their types

Unit II Semiconductor Devices(13 Hrs.)

Introduction to semiconductors, concept of energy band diagram, intrinsic and extrinsic semiconductor, depletion layer, barrier potential, PN junction diode, forward and reverse bias, characteristics of diode, Zener diode, LED, photodiode, phototransistor, LED Variator diode, working and characteristics

Unit III Transistors (13 Hrs.)

BJT, working characteristics, configuration, CE, CB, CC, alpha and beta relation, between alpha and beta, FET working and characteristics parameters, MOSFET working and characteristics.

Unit IV Power Supply Fundamentals (15 Hrs.)

Power supply building blocks, rectifier, need of rectifier, types of rectifier filter and their types, voltage doubler and voltage multiplier, SMPS power supply, regulated power supply sent regulator series regulator transistorized voltage regulator

Reference Books

1) Electronics and Radio Engineering by ND Gupta
2) Basic electronics by Malvino
3) A textbook of applied electronics R S Sedha, S. Chand and Company Limited New Delhi

Course Outcomes

1) This course gives an overview of various Semiconductor devices.
2) Learn the characteristics of basic electronic devices.
3) Learn the characteristics of UJT, FET, MOSFET
4) Learn about power amplifier

ADE 307 Electrical Motors

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1) To know various single phase transformer construction principle and transformer equation & small transformer rewinding.
2) To know various single phase motors, construction working principle, applications.
3) To know various speed controls of single phase motors.
4) To rewinding the different single phase motors

Syllabus

Unit I Rewinding Procedure (9 Hrs.)

Name plate data, inside data, method of removing burn coil and rewinding procedure, varnishing and baking methods, winding problems and developed diagram

Unit: II – Single Phase A. C. Motor (15 Hrs.)

Introduction, working principles, types of single phase motor, construction, working principles, speed control and change of DOR, lubricants, testing of single phase motors, fault finding and trouble shooting, study of data sheet and up keeping of motor, Star Delta, Step down Transformer starter etc.

Unit III. Single Phase A.C. Motor winding (9 Hrs.)

Introduction types of single phase motor winding, fundamental definitions, winding tools and equipments, winding materials

Unit IV. Electric Pumps (9 Hrs.)

Working Principle Types of pumps, Maintenance & repairing of pumps

Reference Books

1) Electrical Wiring Estimating & Costing - J. D. Gupta
2) Electrical Motor Repair - I. M. Anwani
3) Electrical Wiring Estimating & Costing - S. L. Uppal
4) Electrical Motor Winding & Repair - Anwani
5) Basic Electrical Engineering - A Kastkin

Course Outcomes

1) Understand various single phase transformer construction principle and transformer equation & small transformer rewinding.
2) Understand various single phase motors, construction working principle, applications.
3) Understand various speed controls of single phase motors.
4) Understand rewinding the different single phase motors

ADE 308 Lab - Electrical Machines - I

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. Load test on dc shunt motor to draw speed – torque and horse power – efficiency characteristics.
2. Field Test on dc series machines.
3. Speed control of dc shunt motor by armature and field control.
4. Swinburne's Test on dc motor.
5. Retardation test on dc shunt motor.
6. Regenerative test on dc shunt machines.
7. Load test on three phase induction motor.
8. Load test on induction generator.
10. Load test on single phase induction motor to draw output versus torque, current, power and efficiency characteristics.

ADE 309 Lab - Basic Electronics

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1) Study characteristics of PN Diode junction forward.
2) To study characteristics of zener diode reverse bias
3) To study the characteristics of PNP transistor in CB configuration and to evaluate input and output resistance and current gain.
4) To study the characteristics of NPN transistor in CB and evaluate input resistance output resistance and current gain.
5) To study the fixed bias arrangement for transistor.
6) To study characteristics of CE configuration of transistor.
7) To study voltage doubler circuit.
8) To study shunt, series voltage regulator.
9) To study characteristics of CE configuration of transistor.
10) To study Q point of Bipolar Junction Transistor.

ADE 310 Lab - Electrical Motors

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. To find out start and end terminals & tapping, binding shaping of coils.
2. Inserting the coils and making connection as per developed diagram, varnishing & baking
3. To assemble a motor and start it after rewinding.
4. To study concentric winding in split phase motor.
5. To Identify starting and running winding of single phase motor by measuring resistance with the help of multimeter
6. To measure the insulation resistance of single phase motor by using megger.
7. To study the different types and parts of pump.
9. To start run reverse capacitor start & capacitor run motor measure the current voltage & speed.
10. Dismantle and study of carbon brush, and commulator of universal motor reassemble it, start run reverse universal motor measure the current and voltage.

ADE401 Business Communication

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. To provide an overview of perquisites or to business communication.
2. To put in use the basic mechanics of grammar.
3. To provide an outline to effective organizational communication.
4. To underline the nuances of business communication.
5. To impart the correct practice of the strategies of effective business writing.

Syllabus

Unit I Communication (8 Hrs.)

Communication - defining process of it, communication model, objective of communication, principle of communication, importance of business communication, importance of feedback

Unit II Channels of communication (10 Hrs.)

Channels of communication- Introduction, types of communication, dimensions of communication, barriers to communication, verbal, non verbal, formal, informal communication.

Unit III Business Writing (10 Hrs.)

Fundamental of business writing, format of business, types of business letter, enquiry letter, complaint letter, pursuaive letter, proposal, report writing.

Unit IV Letters and Messages (10 Hrs.)

Employment messages, writing resume, application letter, writing the opening paragraph, writing the closing paragraph, summarize.

Unit V Spoken Skills (10 Hrs.)

Spoken skills, conducting presentation, oral presentation, speeches, interview, group discussion, English pronunciation, building vocabulary.

Unit VI Listening Skills (12 Hrs.)

Barriers to effective communication and ways to overcome them,

Listening - Importance of listening, types of listening, barriers to listening and overcoming them, listening situations, developing less listening skills.

Reference Books

1. Business Communication by Bovee, Courtland, John Thill and Mukesh Chaturvedi
2. Business Communication by Kaul Asha
3. Business Communication Strategies by Monipalli Mathukutty
4. Communication Skills for Engineers and Scientists by Sharma Sangeeta and Vinod Sharma

Course Outcomes

1. To be familiar with the complete course outline course objective, learning outcomes, evaluation pattern and assignment.
2. To participate in an online learning environment successfully by developing the implication based on understanding of paraphrasing, deciphering instruction, interpreting guidelines, discussion board and referencing style.
3. To demonstrate his / her ability to write error free while making an optimum use of the correct business vocabulary and grammar.
4. To stimulate their critical thinking by designing and developing clean and lucid writing skills.
5. To demonstrate his verbal and nonverbal communication ability through presentations.

ADE402 Personality Development

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. To make the students aware about the dimensions and importance of effect to personality.
2. To understand personality traits and information and vital contribution in the world of business.
3. To make the students aware about the various dynamics of personality development.

Syllabus

Unit I Introduction (8 Hrs.)

Meaning and definition of personality, factors affecting personality development- biological, home environment and parents, School environment and teachers, peer group, sibling relationship and mass media, cultural factors, spiritual factors, public relations.

Unit II Personality Traits (12 Hrs.)

Meaning and definition, personality traits, developing positive personality traits, attitude factors that determine attitude, benefits of positive attitude and consequences of negative attitude, steps to build positive attitude, personality habits, meaning and concepts of habit, developing effective habits, behavior and character, being proactive- creative and innovative, beginning with the end in mind putting first thing first with determination, discipline, clarity and concentration, thinking big and winning thought, action, active facing challenges, striving for success, apologizing, appreciating, accepting feedback, aiming high, enthusiasm, team-building, setting goals, zeal and passion building.

Unit III Pillars of Personality Development (15 Hrs.)

Introspection - meaning and importance, view about introspection, self introspection skills, self assessment - meaning, importance, types and self assessment for students, self appraisal- meaning, importance, tips for self appraisal, self development- meaning, process of self development, self development techniques, use of self development, individual Development, Plan, self introduction, meaning, tips for effective self introduction, self acceptance, awareness, self-knowledge belief confidence, criticism and self examination, defining success, real or imaginary obstacles to success, factors and qualities that make person successful, concept of failure, reason for failure, person SWOT analysis and STAR analysis

Unit IV Self Esteem (10 Hrs.)

self concept- meaning, definition and development, self esteem -concept significance of self esteem, types, characteristics of people of high and low self esteem, steps for enhancing

positive self esteem, Sigmund ID Ego and superego concept ego management what ego, mis management can do managing egoistic insults.

Unit V Personality Formation Structure (15 Hrs.)

Mind mapping, competency mapping, developing interpersonal and group skill, building positive relationships, Strategies for gaining power and influence enhancing personality through effective communication, Intentional communication, intentional listening, effective speech writing and delivering and successful negotiation. Understanding body language, projecting positive body language, manners and etiquettes, proper dressing for various occasions.

Reference Books

1. Seven Habits of Highly Effective People by Stephen Covey
2.You Can Win by Shiv Khera
3. Three Basic Managerial Skills for All by Hall
4. Personality Development and Career Management by R. M. Onkar
5. Business Communications by Nirmal Singh

Course Outcomes

1. He/she can improve personality
2. Understand personality traits and information and vital contribution in the world of business.
3. Able to find various dynamics of personality development.

ADE403 Lab - Business Communication

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1 Study of factors affecting personality development
2 Study of relationship and mass media, cultural
3 Study of benefits of positive attitude and consequences of negative attitude
4 Study of team building, setting goals in organization
5. Study of self development techniques
6. Study of personal SWOT analysis and STAR analysis
7. Study of ego management
8. Study of effective communication in organization
9. Study of how to writing and delivering and successful negotiation in sales department
10. Visit to organization

ADE404 Lab - Personality Development

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. Study of importance of business communication
2. Study of barriers to communication in verbal and nonverbal
3. Study of different types of business letter
4. Study of report writing and create one report of in any situation in industry
5. Study of letters and write one application for the job interview with resume
6. Study of different paragraph and write one report on it
7. Study of debate
8. Study of interview technique
9. Study of barriers to effective communication
10. Developing listening skills

ADE 405 Electrical Machines – II

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. Understand the student about three phase transformer construction and working principle.
2. Know the construction working principle and various types' three phase AC motors.
3. Students should rewinding the three phase motors.
4. Know about electrical pumps maintenance and repairs.
5. Know about different starters and relay settings.

Syllabus

Unit – I Three phase Transformer (10 Hrs.)

Introduction Working Principle construction of Transformer, connections of transformer distribution and power transformer Transformer testing and maintenance

Unit – II Three phase AC MOTOR (10 Hrs.)

Types of motor construction Working principle of poly phase motor (asynchronous motor) Speed control of three phase motors Testing and repairing Installation and commissioning

Unit III. Three phase AC motor winding (12 Hrs.)

Fundamental winding terms Types of winding Introduction of modern winding machine Rewinding procedure of AC machines Different types of winding data and its developed diagrams

Unit IV Motor starters and Relay setting (13 Hrs.)

Necessity of starter, Procedure of relay setting in starter Types of AC motor starter-Construction, working principle and uses of AC motor Starters 1) DOL starter 2) Fully automatic star-dela starter 3) Auto transformer starter 4) Rotor Resistance starter Mobile remote control starter their ckt (connection) diagram.

Reference Books

1) Electrical Motor Repair - I. M. Anwani
2) Electrical Wiring Estimating & Costing - S. L. Uppal
3) Electrical Motor Winding & Repair - Anwani

Course Outcomes

1. Familiar about three phase transformer construction and working principle.
2. Understand construction working principle and various types' three phase AC motors.
3. Able to rewind the three phase motors.
4. Know about electrical pumps maintenance and repairs and starters and relay settings.

ADE 406 Industrial Wiring Mechanism

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1) Acquire knowledge and skill about industrial and commercial wiring.
2) Identify and uses of different tools.
3) Understand planning, estimation and costing of industrial and commercial wiring.
4) To know about generation and transmission of electrical power.
5) To know about LT substations

Syllabus

Unit I Industrial and commercial wiring (14 Hrs.)

Introduction, Study of Layouts and wiring diagram, Power circuit, Street light circuit, Control panel, wiring Protective Devices, Load Balancing of 3 phase supply, Troubleshooting and maintenance of wiring system of office Maintenance & repair of commercial/Industrial wiring, IE rules, Testing of commercial/industrial wiring with megger, Earthing Plate and rod type earthing, Pipe earthing.

Unit II LT substation (10 Hrs.)

Introduction, Protective Devices, Switch gears, Introduction to layout and maintenance schedule, Single line diagram.

Unit III Illumination (10 Hrs.)

Circuit study, installation and application of illumination sources, Mercury, Vapor lamp Sodium, Vapor lamp, Metal halide lamps, LED Based modern lighting fixtures, Decoration lighting.

Unit IV Planning estimation and costing of industrial and commercial wiring (11 Hrs.)

Introduction, Estimation, costing and bill Elements of estimation Proforma for estimation and costing, Elements of Costing Material, Labour, Expenses, Methods of costing, Content of invoice proforma of invoice, Tenders.

Reference Books

1) Fundamental's of Electricity - Kernard C. Graham
2) Electrical Engineering - B. L. Theraja P - I, II, III, IV
3) Basic Electricals - By B. L. Jheraj

Course Outcomes

1) Understand industrial and commercial wiring.
2) Able to Identify and uses of different tools.
3) Understand planning, estimation and costing of industrial and commercial wiring.
4) Know about generation and transmission of electrical power.
5) Know about LT substations

ADE 407 Power System

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 3 Hrs/week Total Count – 45 / Semester	Internal Assessment - 15 Marks End Semester Examination – 60 Marks (Duration 2 Hrs.) Total Marks - 75

Course Objective

1. To learn about basic concept of Safety
2. To learn how to reduce workplace hazards.
3. To provide knowledge on various safety devices.
4. To learn safety measures during industrial as well as environmental hazards.

Course Contents

Unit-I: Generation of Electrical Energy (11 Hrs.)

Conventional and Non-Conventional Methods of Power Generation, Sources of Energy, Generating Stations Hydro Electric Power Station, Schematic Arrangement of Hydroelectric Power station, Selection of slits for Hydroelectric

Unit II: Power Plants(13 Hrs.)

Power Plant, Constituent of Hydroelectric Power Plant, Classification of Hydroelectric Power Plant, Nuclear Power Station, Selection of site for Nuclear Power Station, Merits and Demerits of Nuclear Power Plants, Power rating Nuclear Power Plant Reactor, on-Conventional Methods of Power Generation, Magneto Hydro Dynamic (MHD) Power Generation, Solar Power Generation, Solar Collectors, Solar Cell, Wind Energy, Geothermal Energy, Biomass Energy, Tidal Power Generation.

Unit III: Transmission and Distribution (13Hrs.)

Transmission, Relative Merits and Demerits of Various Transmission Systems, Distribution, Sub-station, Circuit Breakers, Advantages and Disadvantages of Overhead Line, Types of Overhead Lines, Materials used in Overhead Lines, Overhead Lines, Guarding, Indian Electricity Rules, Regarding Overhead Line, Under-ground Cables, Classification of Under-ground Cables, Construction of Under-ground Cable, Types of Underground Cables, Installation of Underground Cable, Faults in Underground Cable, XLPE Cables, Characteristics and advantages of XLPE, Useful Tables.

Unit-IV: Losses in Transmission (8 Hrs.)

Corona, Reason of Corona Formation, Factors Responsible for Corona, How to Reduce the Corona Effect.

Course Outcomes

1. Illustrate and familiarize the basic concepts and scope of industrial safety.
2. Understand the standards of professional conduct that are published by professional safety organizations and certification bodies
3. Illustrate the importance of safety of employees while working with machineries.

4. Learns safety in various industrial hazard zones.

Reference books

1. Industrial safety management by L.M. Deshmukh, Tata McGraw Hill publication ,New Delhi, 2006.

2. Industrial safety health and environment Management system by R.K. Jain & Sunil S. Rao, Khanna Publications , 2008 .

ADE 408 Lab -Electrical Machines – II

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. To study of 3 phase star/star transformer for its various connections.
2. To study of 3 phase star/delta transformer for its various connections
3. Connect, start, run and reverse given 3 phase induction motor
4. Measure starting and running current, voltage & speed of 3 phase induction motor
5. Control the speed of 3 phase induction motor by various methods (by varying method by changing pole method)
6. Dismantling the three phase motor
7. Dismantling testing resembling and installation of three phase motor
8. Noting data of burnt motor and remove the coils and clean the slot
9. Study of Baking and varnishing of rewound starter
10. Test the rewound motor, assemble the motor, test it and start and run

Study of relays, setting of relays

11. Study of DOL starter and connect to three phase induction motor

ADE 409 Lab - Industrial Wiring

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1. Demonstration on wiring with pvc channel
2. Practice and concealed wiring
3. Practice on surface wiring
4. Measurement of insulation resistance of wiring insulation by using megger
5. Continuity and polarity test by using megger
6. Bus bar MCBs, Elcbs, fuse and DB with cable, gland, fixing in wiring installation.

7 phase load balancing

8 phase energy meter installation

9. Circuit study installation and application of Illumination sources
10. Circuit study installation and application of mercury vapor lamp, sodium vapour lamp and metal halide lamp

ADE 410 Lab - Power System

Teaching Scheme (Theory)	Examination Scheme
Credit - 3 Lecture – 6 Hrs/Batch/week	Internal Assessment - 25 Marks End Semester Examination – 25Marks (Duration 3 Hrs.) Total Marks - 50

List of Experiments

1) To find out the Power of different Machines.

2) To calculate the total wattage produced by home equipments.

3) Three Phase load balancing in transmission system.

4) To study protective device in substation.

5) Visit to generation station and prepare detailed report.

6) To study the material used in the overhead lines.

7) Classify the cables used in the underground transmission.

8) Visit to 11Kv, 440v transformer (DP) and prepare detailed report.

Kada, Tal.Ashti, Dist.Beed

Principal
Shri Amolok Jain Vidya Prasarak Mandal's
Shrimati Shantabai Kantilal Gandhi
Arts, Amolok Science, Panalal Hiralal
Gandhi Commerce College
Kada, Tal.Ashti, Dist.Beed

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A.C. Dt. 11-06-2008

DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY, AURANGABAD.

Syllabus

COMPULSORY "COMPUTER COURSE"

[Effective from – 2008-2009]

Price : Rs. /-

OBJECTIVE :-

The Course is designed to aim at imparting a basic level appreciation programme to graduate students in computer. After completing the course the student is able to use the computer for basic purposes of preparing letters, bio-data, internet, sending mails, searching information on www, presentation of project maintaing accounts etc.

SYLLABUS

The theory as well as practical aspects of following topics will be taught. Corresponding practical classes should follow each theory topic. Each practical be recorded properly in the Record Book and be checked and signed by the concerned teachers of theory classes and practical classes both.

Part-1

[1] Introduction to Computers :-
- Functions and Components of Computer — 05 Hours
- Types of Computers
- Characteristics of Computers
- What Computers can do
- What Computers cannot do

[2] Input and Output Devices
Input Devices
Output Devices

[3] Auxiliary Storage Devices

[4] Representation of data / information concepts of data processing
Definition of information and data
Basic Data Types

PART-2

INTRODUCTION TO WINDOWS

[6] Basic Dos Commands — 10 Hours
Comparison of DOS and Windows
Switching between DOS and Windows
Basic DOS commands: File / Directory, Manipulations, Copy , Delete Formatting a Floppy.

[5] Introduction to Window
Starting Windows
Handling the Mouse
Window Controls

Using Menus
Dialog Boxes
Getting Help from Windows
Windows Settings dates and Sound
Right Button of Mouse
Creating short cuts
Windows set up
Notepad
Window Accessories :
CD writer

PART 3
WORD PROCESSES

[6] Introduction of word Processing — 15 Hours
- Basic Features
- Full-featured Word Processors
- Conclusion

[7] Basics
- Starting Word
- Menus and Toolbars
- Creating, Editing and Saving a Word Document
- Using Word Help

[8] Working with Text-Further Techniques
- Opening a Document
- Moving Multiple Text Selections Simultaneously
- Link Documents

[9] Word Advanced Topics
- Creating a Table
- Working with Graphics
- Mail Merging
- Previewing and Printing a Document
- Shrink a Document to Fit into One Page

PART 4
Excel

[10] Introduction to Electronic Spreadsheets — 15 Hours
- Electronic Spreadsheets
- Spreadsheet Packages
- Conclusion

[11] Excal Basics
- Starting Excel
- Navigating in a Workbook

Data Entry-Manual and Automatic
Correcting Mistakes-Spelling Checker,
Undo and Redo Changes
Using Excel Help

[12] Formatting the Worksheet
Workbook File Properties
Naming the Worksheets
Entering Labels and Adjusting Layout
Adding Comments and Data Validation
Adding Pictures
Changing Cell Alignment and Wrapping
Formatting Cells
Formatting Numbers and Dates
Adding headers and Footers
Previewing and Printing a Worksheet

[13] Formulas, Functions and Graphs
Naming a Range of Cells
Creating and Using Formulas
Using Excel Functions
Creating Graphs and Charts

PART 5
POWERPOINT

[14] Introduction to Presentations and Presentations Software — 15 Hours
Presentation Basics
Presentation packages
Conclusion

[15] PowerPoint Basics
Starting PowerPoint
Menus and Toolbars
Opening and Saving an Existing Presentation
Creating and Saving a Presentation Using AutoContent Wizard
Creating a Presentation Using a Design Template
Creating and Saving a Presentation Using the Blank Presentation
Using PowerPoint Help

[16] Editing, Formatting and Displaying the Presentation
The Slide Sorter View
Inserting Slides from another Presentation
Inserting Pictures and Graphics
Setting Slide Transitions
Slide Show View
Printing Slides, Notes and Handouts

PART 6
DDBMS AND ACCESS

[17] Introduction to Databases, DBMS and RDBMS — 15 Hours
- Information
- What is a Database?
- What is a Database management System (DBMS)?
- Why DBMS?
- Types of Database Management Systems
- Conclusion

[18] Access-Basics
- Starting Access
- Menus and Toolbars
- Viewing Data
- Using Access Help

[19] Data Manipulation in Access
- Sorting and Filtering Records
- Creating and Printing Reports

PART 7
Internet, E-mail and Outlook

[20] Introduction to Internet — 10 Hours
- Internet Basics
- Conclusion

[21] Internet Explorer
- What is a Browser?
- Starting Internet Explorer
- Menus and Toolbars
- Microsoft Internet Explorer
- Setting up an Internet Explorer

[22] Basics of E-mail
- Introduction
- Why use E-mail?
- How E-mail Works?
- E-mail-Advantages and Disadvantages

[23] Outlook
- Introduction
- Starting Outlook
- Menus and Toolbars
- Outlook and E-mail
- Opening and Saving an Attachment

PART 8
WEB DESIGNING & FRONTPAGE

[24] Introduction to Web Design 05 Hours

Introduction
Basics of Web Design
Conclusion
Introduction to Front Page
Starting FrontPage

[25] Use of Scanner

Scanning a picture and editing it
Attachment of the picture in a HTML document

In practical there should not be more than 20 students in a batch. In theory, there should not be more than 100 students in a batch.

Each part consists of 50% theory classes and 50% practical (50 hours theory and 50 hours practical). Students are required to keep record of practical in a journal which will be checked during practical examination.

THE EXAMINATIONS:

The Examination will consist of one theory paper of two hours durations and one practical examination of four hours duration. The examination will be conducted two times in a year.

The theory examination will consists of 50 marks. The paper will have 100 objective type questions.

In the practical examination the students will be four problems based on the syllabus mentioned above. The duly signed seminar and the practical record journals are essential for appearing the practical examination. No student will be allowed to appear for the practical examination until he / she submits duly signed to practical record book certifying that at least 70% of practical have been done by the student. The marks distribution of the practical marks will be as follows

Practical Journals 10 Marks
Seminar report 5 Marks
Viva 10 Marks
Performance in practical 25 marks

The student will be declared pass, if he / she gets more than or equal to 50% marks in theory and practical separately.

PART 9

Introduction to Publisher, Photo Draw and Small Business Tools — 05 Hours

[26] Introduction in Publisher
- Introduction
- Starting Publisher

[27] Introduction to Photo Draw
- Introduction
- Starting Photo Draw

[28] Introduction to Small Business Tools
- Introduction
- Small Business Financial Manager
- Small business Customer Manager
- Direct Mail Manager
- Business Planner

[29] Seminar report on any recent topic related to computer application 5 hours — 05 Hours

Books: Any book containing above topics may be recommended. Some examples are as follows:

1. Introduction to Computers with MS-Office 2000 :- Alexis Leon and Mathes Leon (Tata McGraw Hill)
2. Information Technology:- V.Rajarman (PHI)
3. Data Processing and Information Technology – C.S. Rrench, BPB Publication

The information may be also gathered from Web Site.

INFRASTRUCTURE REQUIRED:

There should be a computer laboratory with one server and 25 computers among 100 students. There should be 5 scanners in the Laboratory.

The system should have Internet facilities. All system should have software related to operating system of the LAN, DOS, Word Processor, PowerPoint, Access, Excel, Internet explorer, Paint Photoshop, HTML

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|| पढमं नाणं तओ दया ||
श्री. अमोलक जैन विद्या प्रसारक मंडळ कडा, संचलित
श्रीमती. शांताबाई कांतीलाल गांधी कला, अमोलक विज्ञान,
पनालाल हिरालाल गांधी वाणिज्य महाविद्यालय
कडा, ता. आष्टी, जि. बीड. पिन ४१४ २०२ (०२४४१-२३९३७८)
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प्राचार्य – डॉ. एन.एस.राठी
(एम.कॉम,एम.फील.,पीएच.डी.)

Outcomes of Compulsory Computer Course

1) The outcomes of a syllabus for Computer Course may vary depending on the specific goals and objectives of the course, as well as the level of proficiency of the students. However, some common outcomes might include:
2) Understanding the basic features of Microsoft Office applications: Students should become familiar with the basic layout and functions of Microsoft Office applications such as Word, Excel, PowerPoint, and Outlook.
3) Proficiency in using Microsoft Office applications: Students should be able to use Microsoft Office applications to create, edit, format, and share documents, spreadsheets, presentations, and emails.
4) Knowledge of advanced Microsoft Office features: Depending on the level of the course, students may also be introduced to more advanced Microsoft Office features such as mail merge, pivot tables, formulas, macros, and templates.
5) Awareness of productivity tips and best practices: Students should be aware of productivity tips and best practices for using Microsoft Office applications effectively and efficiently, such as keyboard shortcuts, auto-correction, formatting styles, and collaboration tools.
6) Familiarity with cloud-based services: Depending on the course, students may also be introduced to cloud-based services such as OneDrive and SharePoint, and learn how to use them to collaborate on documents and share files.
7) Overall, a syllabus for Computer Course should aim to equip students with the skills and knowledge they need to use Microsoft Office applications confidently and effectively in a variety of settings. This includes using the applications to create professional-looking documents, manage data, and communicate effectively with others.

Principal
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