

Government Polytechnic, Aurangabad

(An Autonomous Institute of government of Maharashtra)



NON Exam Credit Courses
2017-18

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SUGGESTED EXERCISES/PRACTICALS

SN	List of practical's	Hours
1	Creation of Indian Jewellery	05
2	Market survey of trends in fashion accessories.& material availability .	02
3	Creation of western Jewellery	04
4	Creation of Indian Headgears	05
5	Creation of Indian Dags/waist belts	05
6	Creation of Waist belt for Women	05
Total		26

SUGGESTED LEARNING RESOURCES: REFERENCE BOOK

Sr.No	Author	Title
1	B. Krieger	Art Design Fantasy Animal Jewellery
2	Jo Moody	Jewellery Making
3	Carol Taylor	Creative Bead Jewellery
4	Accessory making	Singer series

Learning Resources:-websites & U –Tube Videos
www.youtube.com/watch?v=LnLYakN1W7Q
<https://www.youtube.com/watch?v=Cox6Egmr6M>
www.youtube.com/watch?v=snpdsusQEJo



SIGN & NAME OF CURRICULUM DESIGNER

NAME: Ms Jyoti S Lakade.
Lecturer Dress Designing & Garment Mfg.
Govt. Polytechnic, Aurangabad

COURSE TITLE: PERSONALITY DEVELOPMENT

COURSE CODE: 6G311

TEACHING AND EXAMINATION SCHEME

Particular	Theory	Practical	Term Work	Total
Credits	---	02	---	2

RATIONALE:

Personality development is way to present ourselves. Personality development teaches you how to develop inner as well as outer personality. It is the totality of one's own behavior towards oneself and others as well. Adapting some healthy habits really nurture your inner strength. Personality development grooms an individual and helps him make a mark of his/her own. Personality development helps you develop a positive attitude in life. It includes everything about the person , his physical, emotional, social, mental and spiritual make up

COURSE OUT COMES: The student will be able to

- Realize potential to succeed
- One can develop or boost their self – confidence/self-image
- Communicate in right way
- Develop positive attitude
- Handle people in right way & develop good behavior.

COURSE CONTENTS

Unit No.	Hrs	Major learning outcomes	Topics & sub topics
1	03	Students will come to know about importance of PD <div style="border: 1px solid black; padding: 5px; display: inline-block;"> Knowledge Skill Attitude </div>	How to develop winning attitude/personality 1.Be yourself 2.ability to smile 3.Adaptable to change 4.Respect & value for people 5.Stop procrastination 6.Never give up
2	03	How to present or how to develop communication skill	How to improve 1.Self image 2. Confidence 3.Stage fear 4.Undersanding/knowledge
3	03	How to overcome obstacles in communication skill	Types of communication <div style="text-align: center;"> Verbal Non Verbal Written ↓ ↓ (Very Imp steps to effective communication) ↓ Body Language </div>
4	03	Basic Knowledge of Bio-data & Interview updates	Interview Techniques step by step e.g.1.Dress code

			2.Non-verbalcommunication
5	Body Language	03	Importance of B.L (Nonverbal communication) Actions are louder than words. Eye contact
6	Inter-personal skills & emotional intelligence	03	Interpersonal- PD- Leadership Skills Control your emotions I.S. are life skills. How to communicate effectively with surroundings
7	Self image & confidence	04	Love yourself By walking we can recognize once image
	Total Hrs.	22	

LIST OF EXERCISES / PRACTICAL

Unit No.	Exercises / Practical Tutorial	Approx. Hrs Required
1	Exercise on implementation the change to our day to day life & schedule planning	02
2	Role play on communication skill	01
3	Types of body language by actions	01
4	Mock Interview practice	02
5	Non-verbally role play (making group)	01
6	Team builds & developing interpersonal skill	01
7	SWOT analysis of each student	02
	Total Hrs.	10

SUGGESTED LEARNING RESOURCES: REFERENCE BOOK:

Sr. No.	Title And Edition	Author
1	The Secret	Rhonda Byrne
2	The power of subconscious mind	Joseph Murphy

SIGN & NAME OF THE CURRICULUM DESIGNER

NAME : Rachana Deshpande
B.Com MBA, PGDI Tourism



COURSE:- FASHION ACCESSORIES

COURSE CODE:- 6G312

TEACHING AND EXAMINATION SCHEME

Particular	Theory	Practical	Term Work	Total
Credits	---	02	---	2

RATIONALE:

This course provides the Knowledge & Skills of various Garment accessories which gives a complete look in Fashion grooming. The course promotes student to develop and present functional and decorative Indian & Western Jewellery which includes Neck Ornaments, Anklets Bracelet, Footwear, Bags. Etc. The course also increases the creativity of the student.

COURSE OUTCOMES

The student will be able to
Develop Neck Ornaments, Anklets, Bracelet, Bags etc.
Prepare Indian & Western Jewellery using various materials.
Implement basic principles of decorating garment with Various accessories.
Identify the material from market & select right one as per design of accessory.

COURSE CONTENTS:

Topic No.	Major learning outcomes	Topic & Subtopic	Hours
2.	Define accessories . State the importance of accessories. Identify the accessories.	Definition of accessories & its importance.	01
3.	State the design elements Identify the principles in accessories. State the methods of adding principles of design to accessories	Elements & principles of design	02
4.	Identify the accessories according to categories. State the basis of categorisation .	Categories of accessories.	01
5.	List the materials for accessories. Select the right material according to category. Survey the materials available in the market and compare it as per design.	Materials used for accessories. Beads ,Shilpkar,wires,laces,fabrics,pearls etc.	01
6.	Collect the snaps of accessories according to categories. Make a album of the collection.	Collection of accessories of various categories.	01
		Total	6

SUGGESTED EXERCISES/PRACTICALS

Sr. No.	Unit No.	Practical Exercises (Outcomes in Psychomotor Domain)	Approx. Hrs. Required
1	I	Tie and dye: Tying techniques: spider web, knotting, marbeling, ruching, object tieing , pleating,peging,cheveron ,lehriya etc. Prepare sample by using above tying techniques in single, double, triple colors.	14
2	II	Direct printing: Block printing: develop patterns by using Natural leaves, Wooden blocks in single double and triple color.	08
3	III	Stencil printing: Design and develop stencil for single double and triple color.	10
TOTAL			32

SUGGESTED LEARNING RESOURCES: REFERENCE BOOK

Sr. No.	Title Of Book	Author	Publication
1	Tie and dye and batik	Dougotten	Hot off ISBN10:1562311379

SIGN & NAME OF THE CURRICULUM DESIGNER

NAME: Ms.F.B.Siddiqui
Lecturer, Dress Designing & Garment Mfg
Govt. Polytechnic, Aurangabad



COURSE NAME: - HOBBY ELECTRONICS

COURSE CODE:- 6G313

TEACHING AND EXAMINATION SCHEME

Particulars	Theory	Practical	Term work	Oral	Total
Credits	---	02	---	---	02

RATIONALE:-

It is essential for every diploma holder to have a basic knowledge of electronics material and components, identification of components, different types applications, its principle of operation, construction, how to use these components in practical circuits. Knowledge of testing of these components will help the students to maintain electronic equipments. Student will also acquire skill of making PCB and mounting of electronic components and testing methods of small circuits using simple testing equipments.

COURSE OUTCOMES: -

Identify and test different passive and active components.

Prepare PCB for simple electronic circuits.

Handle electronic tools and mount the components on PCB.

Handle electronics devices detect and finding the fault in various electronics devices.

COURSE CONTENTS:

Unit No.	Outcomes	Course content	Tutorial	Periods
01	Identify electronics components and to know the symbol's	Subject Introduction. Electronics symbol's Abbreviation	To draw the Symbol's of Electronics components.	04
02	Handle different types of tools and soldering & de-soldering practice.	Awareness of using all types of tools. Soldering practice & De-soldering practice.	----	05
03	Test the electronics components using Analog and Digital Multimeter	Identification of components & Testing by Analog & Digital Multimeter. (Resistors, Capacitor, Inductors, Transformer, Switches, Relay, Diode, Transistor, FET, TRIAC, MOSFET, DIAC, & IC's.)	To calculate the values of Resistor & Capacitor by colour coding.	10
04	Construct the Hobby circuit & Testing the circuit.	PCB Layout. Etching and drilling process. Project soldering. Project Testing.	----	08
05	Identify the fault & to repair it.	Remote, Mobile Charger, Bell, VCD, DVD Players, Re-charging battery, lab Power Supply Faultfinding etc. Mobile Basic Faultfinding	Component survey in market & project testing.	05

SUGGESTED LEARNING RESOURCES: REFERENCE BOOK

Sr.No.	Title and Edition
1.	Electronics for you.
2.	Project books. Volume- I, II, III.
3.	Website :- www.electronicsgarage.com

SIGN & NAME OF THE CURRICULUM DESIGNER

NAME: Mr. Yeravar Radio Mechanic, E&TC G.P.A.'bad

COURSE TITLE: SPOKEN ENGLISH

COURSE CODE: 6G314

TEACHING AND EXAMINATION SCHEME

Particular Credits	Theory	Practical	Term Work	Total
	---	02	---	2

RATIONALE:

Speaking English confidently has become a supreme necessity to flourish in one's career. It is not just to leave an impression of stylishness but to converse your thoughts in a smart way. English is a language which links us with the outside world. In our country, fluency in English works as an additional benefit. Therefore, employments for a person having knowledge of English are bright in our country. Thus, our students should enhance their communication skills in English.

COURSE OUT COMES:

- Pronounce English Words.
- Use correct language while speaking & writing.
- Implement presentation skills .
- Participate in discussions following all rules & regulations.

COURSE CONTENTS:

Unit No.	Major learning outcomes	Topics & sub topics
1	Phonetics To learn the received pronunciation of English words.	Phonetics: Phoneme, Vowels and Consonants, Practice on phonetic transcription
2	English Grammar To learn the correct use of language in speaking and writing in English.	Grammar: Word Classes, Kinds of sentences, Tenses, Voice and Reported Speech
3	Presentation To enhance the presentation skills.	Presentation: Self introduction, introducing others, JAM n HAM on given topic
4	Discussion To improve mental ability, comprehensive knowledge regarding burning issues.	Discussion: Topic on that time present scenario regarding social, cultural, economical issues.

COURSE TITLE: BANDHANI

COURSE CODE: 6G320

TEACHING AND EXAMINATION SCHEME

Particular Credits	Theory	Practical	Term Work	Total
	---	02	---	2

RATIONALE

Embellishment adds value to every product, Out of various techniques of Value addition Bandhani is one of it.

This course introduces students the techniques to develop the prints on fabric for its embellishment.

COURSE OUTCOMES (COs)

- After studying this course students will able to :
- Identify the contribution of dyeing and printing in fabric decoration.
- Develop the skills of direct printing on fabric.
- Design fabric with resist printing technique.
- Apply the techniques of fabric embellishment in clothing and furnishing.

COURSE CONTENTS:

Unit No.	Major learning outcomes	Topics & sub topics
Introduction to dyes	Classify dyes. Differentiate natural and synthetic dyes.	Classification of dyes: Natural and synthetic dyes
Tie and dye printing	Develop patterns by using various techniques of tie and dye. Apply tying techniques for various effects.	Single, double and triple dyeing with different tying techniques.
Direct printing and its types	Develop patterns by using various Blocks. Create stencils with motifs. Apply the single/double/triple color techniques for design development.	Block printing :Natural leaves and wooden block printing Stencil printing: Single Color, double and triple color.
Maintenance of tie and dye fabric	Understand its maintenance for durability.	Laundrying and maintenance of tie and dye, Block print, stencil printing.



Unit	Major Learning Outcomes [Psychomotor]	Topics and Sub-topics
Unit-III Types Of Seam Finishes	Demonstration of Edge Stitched Finish & Pinked Finish Prepare a sample of Edge Stitched Finish & Pinked Finish Identify Application of Edge Stitched Finish & pinked finish Collect sample or swatches of above seam finishes	3.2.Types Of Seam Finishes : Edge Stitched Finish, Pinked Finish
Unit-IV Openings	Demonstration of Opening- One Piece Opening, Two Piece Opening, Faced Slash opening, Prepare a sample of Opening- One Piece Opening, Two Piece Opening, Faced Slash opening, Identify Application of Opening- One Piece Opening, Two Piece Opening, Faced Slash opening, Collect actual sample or swatches of Opening	5.1 Introduction to Opening Two Piece Opening, Faced Slash opening, Sewing of Hook, Buttons and Eye openings.

SUGGESTED EXERCISES/PRACTICALS

S. No.	Practical Exercises (Outcomes in Psychomotor Domain)	Approx. Hrs. required
1	Common problem of sewing machine, Handling of sewing machine Construction Basics -Temporary & Permanent Stitches	12
2	Decorative Seams-Plain Seams ,Top Stitched Seam (One Side &Two Side), French Seam, Flat Felled Seam	06
3	Seam Finishes-Edge Stitched Finish, Pinked Finish, ,	06
4	Openings - Two Piece Opening, Faced Slash opening, sewing hook ,button and eye opening	08

SUGGESTED STUDENT ACTIVITIES

Sample preparation
Sewing an article with concerned stitches,

SUGGESTED LEARNING RESOURCES: REFERENCE BOOK

Sr.No	Title and Edition	Author
1.	Complete guide to sewing	Reader's digest
2.	Encyclopedia of sewing techniques	Jan eaten
3.	Clothing decisions	Anita Webb
4.	Cutting & Sewing 1-2	Nimi

NAME OF THE CURRICULUM DESIGNER

NAME: Mrs. N.R. Lakhotiya
Lecturer, Dress Designing & Garment Mfg
Govt. Polytechnic, Aurangabad

SUGGESTED EXERCISES / PRACTICAL

Unit No.	Topics	Exercises / Practical Tutorial	Approx. Hrs Required
1	Phonetics	Practice on Phonetic transcription	08
2	English Grammar	Exercises on related topics	12
3	Presentation	Practice on individual presentation	06
4	Discussion	Brain storming discussion on given topics within groups	06
Total Hrs.			32

SUGGESTED LEARNING RESOURCES: REFERENCE BOOK:

Sr. No.	Title And Edition	Author	Publication
1	Better English Pronunciation	J.D.O'Conner	Oxford University Press
2	High school English grammar and Composition	Wren and Martin	S.Chand and sonsPublication
3	English Grammar and composition	Pal and Suri	S.Chand and sonsPublication
4	A Course in Phonetics and Spoken English	J.Sethi and P.V.Dhamija	PHI Learning Pvt.Ltd

SIGN & NAME OF THE CURRICULUM DESIGNER

1.Mrs.P.Y.Kamble 2.Mrs. M.S.Ban
3.Mr.P.V.Deshmukh 4. Mr. R.L.Korde 5.Mr.D.D.Gangthade



COURSE TITLE: GERMAN

COURSE CODE: 6G315

TEACHING AND EXAMINATION SCHEME

Particular	Theory	Practical	Term Work	Total
Credits	---	02	---	2

RATIONALE:

To know a foreign language is important now-a-days. The knowledge of a foreign language helps in the professional career. It gives more job opportunities. The present curriculum is designed to give a brief idea about German language and culture.

COURSE OUT COMES:

Ability to understand simple sentences in present tense.

Ability to frame short and simple sentences.

Ability to communicate in some daily situations.

COURSE CONTENTS:

Topic and Sub Topics	Hrs
1.Course Topics	
Self- Introduction (1 hrs)	1 hrs
Nos. up to 10,000 (1 hrs)	1 hrs
Weekdays, Months	1 hrs
Date & Time	2 hrs
Greetings	1 hrs
2.Vocabulary related to following Themes	
My House	2 hrs
My Family	2 hrs
Daily routine	2 hrs
Hobbies	2 hrs
Food	2 hrs
Profession	2 hrs
My city	2 hrs
3.Grammar topics covered	
Verb forms (Present Tense)	2 hrs
Articles	2 hrs
Possessivpronouns	2 hrs
Auxiliary verbs	2 hrs
Wh-Question/ Yes-No Questions	2 hrs
Past-Tense of haben and sein	2 hrs
Total Hrs.	32 hrs

SUGGESTED LEARNING RESOURCES: REFERENCE BOOK:

Sr. No.	Title And Edition
1	Studio d A1
2	Netzwerk A
3	Themen aktuell A1
4	Tangram aktuell

SIGN & NAME OF THE CURRICULUM DESIGNER.

COURSE TITLE: - BASICS OF SEWING TECHNIQUES

COURSE CODE: 6G322

TEACHING AND EXAMINATION SCHEME

Particular	Theory	Practical	Term Work	Total
Credits	---	02	---	2

RATIONALE:

This course provides the basement for operating sewing machines and developing skills on hand that needs to be used for sewing basics for garment construction and mending household garments.

COURSE OUTCOMES

Develop skills operate sewing machine.

Maintain sewing machine.

Stitch permanent and temporary stitches.

Identify application of permanent and temporary stitches.

Mend garments.

Sew Seams and Seam finishes.

COURSE CONTENTS:

Unit	Major Learning Outcomes [Psychomotor]	Topics and Sub-topics
Unit-I Construction Basics	Describe different parts cleaning & Oiling Practicing sewing machine. Demonstration of even & uneven stitches Prepare a sample of even & uneven stitches Identify application of even & uneven stitches Collect sample of Temporary stitches Demonstration of Running Stitch, Hemming, Over Casting, Prepare a sample of Running, Hemming, and Over Casting stitches. Identify Application of Running, Hemming, Over Casting stitches Collect sample or swatches of above permanent stitches.	1.1.Cleaning, Oiling& handling of sewing machine 1.2.Temporary stitches : Even Basting, Uneven Basting 1.3.Permanent Stitches : Running Stitch, Hemming, Over Casting.
Unit-II Decorative Seams	Demonstration of Top Stitched Seam (One Side &Two Side), French Seam, Flat Felled Seam, Hong - Kong Seam Prepare a sample of Top Stitched Seam (One Side &Two Side), French Seam, Flat Felled Seam, Hong - Kong Seam Identify Application of Top Stitched Seam (One Side &Two Side), French Seam, Flat	2.1. Plain Seams , Top Stitched Seam (One Side & Two Side), French Seam, Flat Felled Seam,



water cooler	mixer, motor, water cooler.
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SUGGESTED LIST OF EXERCISES/PRACTICALS:-

Sr. No.	Unit No.	Practical Exercises (outcomes in Psychomotor Domain)	Approx Hours. required
1	I	Identify the symbols of electrical components.	02
2	I	To study the different safety precautions	02
3	II	Identification of electrical supply and testing by test lamps	04
4	II	Analyze and test the Switch board, capacitor (electrical) calling rose point, tube light point, MCB switch, energy meter, house wiring, voltmeter ammeter.	04
5	III	To build the switchboard and wiring of electrical appliances	04
6	III	To make electrical wiring and fitting of any premises.	04
7	IV	Test and repair the following equipments: Test lamp, tube light and iron	04
8	IV	Test and repair the following equipments: Regulator, heater, Toster	04
9	IV	Test and repair the following equipments: Table fan, ceiling fan, exhaust fan, mixer, motor, water cooler.	04
Total Hours			32

SUGGESTED LEARNING RESOURCES: REFERENCE BOOK

Sr. No.	Title of Books	Author	Publication
1	Electrical safety Handbook	John Cadick, Mary Capelli-Schellpfeffer, Dennis Neitzel	Mc Graw Hill Education
2	Electrical equipment, testing and maintenance	Paul Gill	Reston Publishing Company
3	Electrical Equipment handbook	Philip Kiameh	Mc Graw Hill Education

NAME AND DESIGNATION OF COURSE DESIGNER

NAME: Prof. B.S. Sanap,
Lect. In Electrical Dept.
Govt. Polytechnic, Aurangabad



NAME: Aparna Sahasrabudhe, Aurangabad, Ph: 0240-6509126/9049991851

COURSE TITLE: - FRENCH

COURSE CODE: - 6G316

TEACHING AND EXAMINATION SCHEME

Particular	Theory	Practical	Term Work	Total
Credits	--	02	---	2

RATIONALE:

The ability to speak French is an advantage on the international job market. A knowledge of French opens the doors of French companies in France and other French-speaking parts of the world (Canada, Switzerland, Belgium, and the continent of Africa). As the world's fifth biggest economy and third-ranking destination for foreign investment, France is a key economic partner. The ability to speak both French and English is an advantage for finding a job with the many multinational companies using French as their working language, in a wide range of sectors (retailing, automotive, luxury goods, aeronautics, etc.).

Speaking French opens up study opportunities at renowned French universities and business schools, ranked among the top higher education institutions in Europe and the world. Students with a good level of French are eligible for French government grants to enroll in postgraduate courses in France in the discipline of their choice and qualify for internationally recognized degrees.

COURSE OUTCOMES:

- Identify the alphabets.
- Speak words & count numbers.
- Use the grammar in making sentences.
- Form simple sentences.
- Achieve a positive attitude towards learning higher level of the language.

COURSE CONTENTS:

S.No.	Topic & Subtopic	Hours
1.	Grammar: Nouns – feminine, masculine, singular, plural The verbs 'être', 'avoir' in the present tense Articles – definite and indefinite Adjective agreement in gender and number Verbs in 'ER' Etre and Avoir Prepositions of place Il y a + Il n'y a pas Word order: sentence/question Key prepositions – à, dans, en, au, etc. Yes/no questions Possessive pronouns Revision 'ER' verbs The immediate past: 'venir de' Negative sentences	11 hours

	Key verbs: faire, aller, sortir, etc. Demonstrative pronouns Frequency adverbs Reflexive verbs in 'ER' Question words (quel)	
	Total	11

SUGGESTED EXERCISES / PRACTICALS

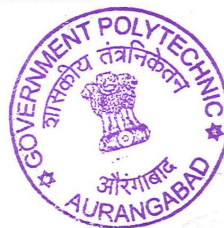
SN	List of practical's	Hours
1	Greet Each other & study Pronunciation – key sounds	03
2	Days of the week, naming animals.	03
3	Make Alphabet + letters combination	03
4	List the Numbers & tell the time.	03
5	Giving personal details (address, telephone number, email, age) Describe a city (jobs and places)	03
6	Describing objects – shape, colour, size	03
7	Role play	03
	Total	21

SUGGESTED LEARNING RESOURCES: REFERENCE BOOK

Sn	Author	Title
1	Myrna Bell Rochester	Easy French Step-by-step
2	Jean-Paul Valette & Rebecca Valette	Langue et culture françaises
3	Michael D. Oates	Entre Amis

NAME & SIGNATURE OF CURRICULUM DESIGNER

NAME:



NAME: Anand Duryodhan Gawai (JLPY 3 Level pass)

COURSE TITLE: - ELECTRICAL MAINTENANCE.

COURSE CODE: - 6G321

TEACHING AND EXAMINATION SCHEME

Particular	Theory	Practical	Term Work	Total
Credits	---	02	---	2

RATIONALE:-

It is essential for every student to have a basic knowledge of electrical components, switches, different electrical appliances and its operation. In this course, we prepare electrical switch board, wiring. Students are able to do their own house wiring as well as testing of electrical equipments such as lamps, tube light, fan, regulators, heater, mixer.

COURSE OUTCOMES:-

Identify the electrical symbols, different types of tools, safety precautions.

Test the electrical equipments.

To interpret and use switch board connection

To identify the fault and repair it.

COURSE CONTENTS:-

Unit	Major Learning Outcomes (in cognitive domain)	Topics and Sub-topics
Unit – I Introduction of electrical tools and safety precautions	1a. Analyse the different types of tools and accessories used in electrical 1b. Draw electrical symbols of components. 1c. Which are the electrical safety precautions.	1.1 Introduction to electrical engineering, electrical tools /Accessories 1.2 Electrical symbols of components 1.3 Electrical safety
Unit- II Testing electrical accessories	2a. Test the electrical supply by using the testing lamp. 2b. Analyse and test the Switch board, capacitor (electrical) calling rose point, tube light point, MCB switch, energy meter, house wiring, voltmeter ammeter.	2.1 Identification of electrical supply and testing by test lamps 2.2 Switch board, capacitor (electrical) calling rose point, tube light point, MCB switch, energy meter, house wiring, voltmeter ammeter.
Unit-III Wiring	3a. to familiarize with switch board and placing of component.	3.1 Switch board diagram 3.2 Board cutting and drilling 3.3 Switch board connection and fitting.
UNIT –IV Repairing electrical equipment	4a. How to repair the following equipments such as Test lamp, tube light and iron, Regulator, heater, Toster, Table fan, ceiling fan, exhaust fan, mixer, motor,	4.1 Test and repair the following equipments: 4.1.1 Test lamp, tube light and iron 4.1.2 Regulator, heater, Toster 4.1.3 Table fan, ceiling fan, exhaust fan,

COURSE TITLE: JAPANESE

COURSE CODE: 6G324

TEACHING AND EXAMINATION SCHEME

Particular	Theory	Practical	Term Work	Total
Credits	---	02	---	2

RATIONALE: Japan is the second largest economy in the world it is resource full country and files up nearly 400000 patents every year. Innovation has made Japanese world leader in technological advancements and has majority employment opportunities hence as a technical student learning Japanese is important which makes a way for the opportunities in the country.

COURSE OUT COMES:

The course provide introduction to subject and motivation for students to learn the next level of Japanese language.

Student can interpret basic sentences and formulate basic sentences.

Student can use the language in day to day life.

Student cans conversant basic sentences.

COURSE CONTENTS:

Unit No.	Topic	Hrs
1	Introduction of language	02
2	Alphabets, Kanjis	02
3	Greet	02
4	Days of the week	01
5	Days of the Months	01
6	Month of the year	01
7	Making Sentence with Grammar	02
8	Counter	02
9	Test	02
Total Hrs.		15

SUGGESTED EXERCISES / PRACTICAL

Unit No.	Exercises / Practical Tutorial	Approx. Hrs Required
1	Writing / identify through practice and some kanjis	03
2	Writing / identify numbers through practice	02
3	Greet each other learning practically	02
4	Writing / identify days of the week through practice	01
5	Writing / identify days of the Months through practice	01
6	Writing / Identify Months of the Year through practice	01
7	Writing / identify making simple Sentence with Grammar through practice	03
8	Writing / identify Japanese counter through practice	02
9	Above syllabus test, orally practice	02
Total Hrs.		17

SUGGESTED LEARNING RESOURCES: REFERENCE BOOK:

Sr. No.	Title And Edition	Author	Publication
1	Minnano nihongo	Suri E Nettowa.Ka	Goyal
2	Nihongo Sho ho	Shinagu Suzuki	Vijitha Yapa

SIGN & NAME OF THE CURRICULUM DESIGNER

COURSE TITLE: YOGA

COURSE CODE: 6G317

TEACHING AND EXAMINATION SCHEME

Particular	Theory	Practical	Term Work	Total
Credits	---	02	---	2

RATIONALE: An irregularity in the body affects mind & similarly unpleasantness in mind can manifest as an ailment in body .Yoga gives you strength, flexibility and mind & body awareness that helps you to relax and energize. Yoga cultivates self regulation and higher consciousness in individual. Its an art of living which will be cultivated from student life hence important for students & every individual.

COURSE OUT COMES:

Practice Yoga to increase flexibility, muscle tone & strength.

Maintains balanced metabolism & healthy and peace

Improves respiration, energy and vitality

Plan the yogic diet and know its do's and don'ts.

COURSE CONTENTS:

Unit No.	Topics & sub topics	Hours
UNIT -I	Importance of Sports & Physical education With Yoga for teen agers	01
UNIT-II	Planning & Preparation in detail before learning Yogic Practices	01
UNIT-III	Introduction of YOGA various methods of yoga (Types) YOGA at a glance chart	02
UNITIV	Basic principles of YOGA – Difference between physical ed. Sports & YOGA	02
UNIT V	Importance of practical sequence of yogic practices – cleansing methods (Shatkriya)	02
Tips of Yogic Diet		02
Total Hrs.		10

1. SUGGESTED EXERCISES / PRACTICALS

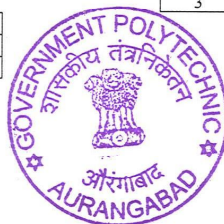
Unit No.	YOGA PRACTICAL	Approx. Hrs Required
1	Correct sitting method (Posture) 4 Bends and Basic movements	05
2	Side bend & Twist, 12 surayanamskar + 32 Yogasanas	05
3	Three types of Basic Breathing practices and its variations	05
4	Practice of Pranayam with kumbhak & without kumbhak	05
5	Prepare diet plan for teen ager students	02
Total Hrs.		22

SUGGESTED LEARNING RESOURCES: REFERENCE BOOK:

Sr. No.	Title And Edition	Author
1	Asan Pranayam	Bahan Mudra
2	Science of Human Body & Yoga	Dr. Makarand Gore
3	Yoga & Mind	Dr. Sam Prasad Vinod

SIGN & NAME OF THE CURRICULUM DESIGNER

NAME: P.R. Bardapurkar, BA,BPEd,MPEd,NIS-Yoga



COURSE TITLE: MUSIC INSTRUMENT

COURSE CODE: 6G318

TEACHING AND EXAMINATION SCHEME

Particular	Theory	Practical	Term Work	Total
Credits	---	02	---	02

RATIONALE:

The instrumental program provides an Opportunity for all students to study an Instrument. It focuses on: Conceptual Understanding, Musical Techniques, Expressive growth. Communicate Ideas, Feelings and Moods. Develop knowledge of the Elements of Music, Develop Self-Discipline and Personal Satisfaction

COURSE OUT COMES:

Fingers, Notation, Octave, Chords (Exercise) All these daily practice will develop Listening & Playing Skills of melody instruments.

It will Give Good & Better Presentation.

Students will handle melody & rhythmic instruments

Students will read the notations

Students will play beats on rhythmic instruments

COURSE CONTENTS:

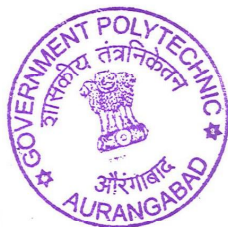
Sr. No.	Topic	
1.	Introduction	1.Parts of Instruments 2.How to Handle An Instrument 3.Types of Instruments
2.	Guitar	Open strings: 1. Holding Guitar 2.Open notes, strings 3. Open notes exercise 4.Notes Plucking Warm Up
3.	Melody Instruments Key board & Guitar	Fingers Formation : 1.Fingers Holding With Fingers 2.Two Fingers with Exercise 3. Three Fingers with Exercise 4. Four Fingers with Exercise 5. Fingers Formation Exercise
4.	Rhythm Instruments Beat Pattern	Tablas, Drums, Congo, Bongo 1.Basic timing exercise 2.Counting Bit 3.Taping 4.Bits 1/2/3/4 Clapping on time
5.	Western Notation	1. Notes Formation 2.Notes reading & playing on Guitar 3. Notation Exercise 4.Notation practice on octave 5.Notes séance

SUGGESTED EXERCISES / PRACTICAL

Unit No.	Exercises / Practical Tutorial	Approx. Hrs Required
1	Preparations and Warm Ups Aerobic Exercises Anaerobic Exercise ,Core Muscle Exercise ,Balance Exercises, Flexibility Exercises, Busy People Exercises, Beginner Routine, Intermediate Routine Hard Routine, Interval Training Routine ,Elderly Routine, Post-Exercise Techniques	07
2	List Of Aerobics Workouts- walking, running & cycling etc.	04
3	Step Aerobics Basics/ Moves and techniques Basic Step, Corner knee (or corner kick),Repeater knee (aka Triple knee),T-Step, Over-the-Top Lunges-Step, Straddle Down, L-Step, Split Step, I-Step & Turn Step & Knee Repeater	08
4	Flexible exercise & Abdominal exercise	03
Total Hrs.		22

SUGGESTED LEARNING RESOURCES: REFERENCE BOOK:

Sr. No.	Title And Edition	Author	Publication
1	Aerobics & exercise	David C. Lieberman	
2	Life Of Fitness	Sara James	
3	The Aerobics Program	Kenneth Cooper	



SIGN & NAME OF THE CURRICULUM DESIGNER

NAME: Mr. Shaikh Nisar

COURSE: AEROBICS

COURSE CODE: 6G326

TEACHING AND EXAMINATION SCHEME

Particular	Theory	Practical	Term Work	Total
Credits	---	02	---	2

RATIONALE:

This course helps to improve the fitness of the heart and lungs. It's an activity that causes you to sweat and breathe hard, that makes your blood pump through your veins as it carries oxygen to your muscles to keep you going. It reduces stress, increases bone density, give relief from depression & anxiety & build a confidence about your personality, and hence it is essential for students.

COURSE OUTCOMES:

Classify the various exercises & learn about the latest aerobic exercise guidelines and the health benefits of aerobic exercise.

Student can compare aerobics exercise with other exercises.

Student can use the various moves and techniques of aerobics exercise in day to day life.

Students can increase their stamina & energy for both work and play.

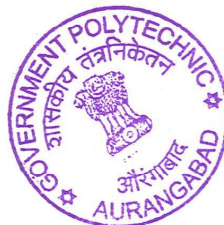
COURSE CONTENTS:

UNIT NO.	Topics/Contents	Hrs
UNIT-I	What Is Aerobic Exercise?	01
UNIT-II	Why You Need Aerobic Exercise	01
UNIT-III	Getting Started With Aerobic Exercise	01
UNIT-IV	Advantages /Benefits of Aerobic Exercise Mental benefits ,Health benefits, Physical benefits & Fitness benefits	02
UNIT-V	Types & Safety of Aerobics	02
UNIT-VI	Indoor Aerobic Exercise Equipment	01
UNIT-VII	Moves and techniques Basic Step, Corner knee (or corner kick),Repeater knee (aka Triple knee), T-Step, Over-the-Top Lunges, V-Step, Straddle Down, L-Step, Split Step, I-Step	02
	Total Hrs.	10

6.	Octave	1. Introduction of Octave
		2.Types of Octave
		3. Octave Cycle
		4. Notation on Octave
7.	Signs & Symbols	1. Sign Roots
		2. Chromatic notes with signs
		3.Value of notes
		4. Symbols on Notation
8.	Co-Ordination	1. introduction of Chords
		2. Chords Making
		3. Types of Chords
		4. Reading & playing on Instrument
		5. Strumming pattern exercise
		6.Chords Sequence
		7.Chords shifting exercise with strumming pattern
		8. Chords formation with strumming
		9. Chords Co-Ordination
		10.Co-Ordination with notes & songs

SUGGESTED LEARNING RESOURCES: REFERENCE BOOK:

Sr. No.	Title And Edition	Author
1.	Music Theory	Johanthan Harnum
2.	Grade 1 Music Book	Mail Bay



SIGN & NAME OF THE CURICULUM DESIGNER

NAME: Krishna Chandrakant Badgujar
Graduate in Electronics
Eight Grades in Trinity [College Of London]

COURSE TITLE: TWO WHEELER MAINTENANCE

COURSE CODE: 6G319

TEACHING AND EXAMINATION SCHEME

PARTICULAR	THEORY	PRACTICAL	TERM WORK	TOTAL
CREDITS	---	02	---	02

RATIONALE:

Two wheelers are the essential part of everybody's life today. Two wheelers are most convenient and economic mode of transportation along with low initial cost feature. As on today, Two wheeler vehicles like motor cycles, scooters and mopeds are extensively used by men, women and students. Considering this, it is essential that knowledge about construction, working and basic maintenance of two wheelers is essential and needs to be inculcated in students at this level. Present course aims in exposing the students to two wheelers as regards basic constructional details, working, basic fault finding and maintenance practice on hands on levels so that he/she will be able to handle basic maintenance of his/her two wheeler vehicle.

COURSE OUTCOMES:

After completion of the course, students should be able to acquire following course outcomes, Identify the basic systems and mechanisms of different two wheelers. Handle various tools required for two wheeler maintenance. Dismantle and assemble different parts and assemblies of two wheelers. Identify faults and able to rectify it by replacing the defective parts. Carry out regular maintenance of two wheeler vehicles.

COURSE CONTENTS:

Following theory should be explained before taking practical exercises in short and it should be immediately followed by practical hands on exercises. Overall working of systems and parts is expected to be delivered so that student can practically conduct the exercises. This course is intended for development of practical skills.

Unit	Major Learning Outcomes	Topics and Sub- Topics
UNIT-I - Workshop Tools and Equipments	<ul style="list-style-type: none"> Identification of different tools and their practical use in different applications. Selection of particular tool for a specific application. Hands on use tools for specific tasks. Understanding of use of different equipments for different tasks in two wheeler maintenance. 	<ul style="list-style-type: none"> Details of various workshop tools such as Open end spanners, double end spanners, combination spanners, ring spanners, allen key, T handle, socket set, ratchete 3/8", various types of screw drivers like flat, Philip head, Stub head Hammers, pliers, chisels, centre punch, pliers, Extention bar, universal joint, offset handle, speed handle, Torque wrench Details of equipments like Timing light, Compression guage, Vacuum guage, Multimeter, Bearing puller, feeler guage, micrometer, Temperature guage, Tyre pressure guage, Rocker arm shaft puller, piston pin replacer, Magneto puller, Clutch spring compressor.

COURSE TITLE: MUSIC VOCAL

COURSE CODE: 6G325

TEACHING AND EXAMINATION SCHEME

Particular	Theory	Practical	Term Work	Total
Credits	---	02	---	2

RATIONALE:

The presence of music in our society suggests that music satisfies fundamentals human needs. Music has been always an important component in educational curricula. The present curriculums aims to develop listening and singing music skill as well as to introduce glories history of music and their different singing farms.

COURSE OUT COMES:

Music is co-curriculum to all subject like social science, physical science, physics etc. To relies pressure and stress management Able to listen classical music. Beneficial for awakening artist. Ability to participate in competition, cultural program Get knowledge of instrument handling

COURSE CONTENTS :

UNIT	Major Learning Outcomes	Topics & Sub-topics
UNIT- I	Musical Definitions are basics of music & Exercise of Alankar helps to develop vocal cord.	Basic Information of music 1. Definition 2. Alankar
UNIT -II	Raag Yaman is easy to learn, as well as its very famous in classical Music & Film Music	Classical Music 1. Raag Yaman 2. Yaman based filmy song
UNIT-III	Light music is very close and familiar to coman people and also new students. It can Perform and listen at any stage like competition, gathering etc.	Light Music 1. Bhavgeet 2. Bhaktigeet 3. Gazal
UNIT-IV	Every singer shall have knowledge of harmonium & Table to sing a song in sur and taal	Music Instruments Harmomium 2. Tabla

SUGGESTED EXERCISES / PRACTICAL

Unit No.	Exercises / Practical Tutorial	Approx. Hrs Required
1.	To collect different types of songs in Raag Yaman	12 hrs
2.	Information of folk songs, folk artists, folk instruments	12 hrs
3.	Organization & performance in departmental Musical concerts	08 hrs
Total Hrs.		32 hrs

SUGGESTED LEARNING RESOURCES: REFERENCE BOOK:

Sr. No.	Title And Edition	Author	Publication
1	Sangeet Visharad	Mr. Vasant	Hathras Publications
2	Loksangeet Shastra	Dr. Ashok Ranade	-
3	Sangeet Kala Vihar (Magazine)	-	Akhil Bhartiya Gandharv Mahavidyalay Mandal, Mumbai

SIGN & NAME OF THE CURRICULUM DESIGNER

NAME : Dr. Deepali Vasekar-Kate,
(NET, Ph.D., B.Ed., Sangeet Alankar)



	the given PC, install & test them	
XII	Search for various data recovery software apply on pen drive/HDD.	02
XIII	Perform computer maintenance and preventative maintenance functions. • Perform physical cleaning (internal and external) of personal computer. • Demonstrate how to adjust basic performance settings. • Perform hard drive file system maintenance. • Identify anti-virus software and applications.	02
XIV	Utilize Internet to download device drivers. Installation of drivers of various devices from the internet.	02
Total Hours		32

SUGGESTED LEARNING RESOURCES: REFERENCE BOOK:

Sr.No	Title and Edition	Author	Publication
1	Computer Installation and Servicing	D Balasubramanian	Tata McGraw Hill Education Private Limited
2	The complete PC Upgrade & Maintenance Guide	Mark Minasi	BPB Publications
3	IBM PC and clones	GovindRajalu	Tata McGraw Hill Education Private Limited

SIGN & NAME OF THE CURRICULUM DESIGNER

NAME: 1. Prof.P.B.Lahoti

2. Prof.J.P.Joshi

3. Prof.O.R.Varma

Lecturer Computer Engg, Dept.
Govt. Polytechnic, Aurangabad



UNIT-II- Basics of Two wheeler vehicles	<ul style="list-style-type: none"> • Identification and understanding of functions of various parts of Two wheeler vehicles. • Identification of mechanisms in Two wheeler vehicles. • Able to locate faults in different parts by external observations 	<ul style="list-style-type: none"> • Classification and constructional layouts of two wheeler vehicles such as Motor cycles, Scooters, Mopeds. • Details of various parts of two wheeler vehicles such as <p>Motor cycle / Scooter / Moped: Identification and function of various parts like Frame or chasis(Diamond frame,Double cradle frame,cradle frame,single cradle frame, backbone frame,T-Bone frame steel tubular under bone frame) Engine, carburetor, Fuel tank,Meter panel display body,Speedometer,Odometer,Fuel indicator,Multi reflector head light,Telescopic front forks, front fenders,front tyres,front wheel,front disc/drum brake, front fender,Seat,Swing arm suspension,Exhaust muffler,Rear wheel,Rear tyre,Rear brake drum,Conventional Chain,rear fender,Accelerator/Throttle,Brake levers, electric swiches and horn,storage compartment,catalytic converter</p>
UNIT-III-Fuel and air Intake system	<ul style="list-style-type: none"> • Understanding of working of fuel intake system of two wheeler vehicle • Develop hands on skill of dismantling and assembly of fuel cock,carburetor • Cleaning and tuning of carburetor • Fault finding in fuel cock and carburetor and repairs • Overhauling and cleaning of air cleaner and filters 	<p>Fuel Intake system: Details and construction of Fuel tank, hand operated fuel cock, Details and construction of carburetor with parts as Throttle valve,jet needle,cutway,needle jet,pilot air passage,air jet,air screw, Float chamber,Float valve,Main jet, Pilot jet Pilot outlet.</p> <p>Air Intake system: Air cleaner, Filters and types such as Dry paper type, Wet Foam type.</p>
UNIT-IV- Engine and systems	<ul style="list-style-type: none"> • Development of Hands on skills for dismantling and assembly of engine • Replacement of old and worn out parts. • Identification of faults. 	<p>Construction and working of four stroke engine with details of Cylinder head,Cylinder block,Crankcase,camshaft,inlet and exhaust valves, valve springs,rocker arm,cam chain sprockets,cam chain,cam chain tensioner, cam chain guide (Damper),Crankshaft,main bearings,</p> <p>Lubrication System: detail and construction of oil filter,oil pump and</p>

		lubrication system Cooling system: details of air cooling system , fins.
UNIT-V- Transmission System	<ul style="list-style-type: none"> Development of Hands on skills for dismantling and assembly of multiplate clutch, Transmission gear box and Continuously Variable Transmission (CVT) mechanism and Kick mechanism Identification of faults and remedies 	<p>Details and construction of Primary reduction driving and driven gears , Multi plate clutch, Transmission Gear box, Gear shift mechanism, Continuously Variable Transmission (CVT) mechanism, Secondary reduction chain drive system,</p> <p>Details of kick mechanism: primary drive and driven gears, kick pinion, kick idle gear, kick gear ratchet wheel and kick lever</p>
UNIT-VI- Suspension and steering system	<ul style="list-style-type: none"> Development of Hands on skills for dismantling and assembly of telescopic front fork suspension, rear suspension and steering handle. Identification of faults in suspensions 	<p>Suspension system: Details of telescopic front fork suspension</p> <p>Details of Rear suspension with conventional two shock absorber type, monocross type, unit swing arm type</p> <p>Steering System: Details of steering handle, head pipe, underbracket.</p>
UNIT-VII- Braking system	<ul style="list-style-type: none"> Development of Hands on skills for dismantling and assembly of drum and Disc brake assembly Fault finding and replacement of faulty parts. Setting of brakes for optimum performance 	<p>Details of drum braking system with brake drum, cam, brake shoe, brake lining anchor pin, return spring, brake plate. Brake foot lever, brake rod, brake camshaft lever, brake pedal free play adjusting nut.</p> <p>Details of disc brake with hydraulic cylinder, piston, primary cap, return port, return spring, pipeline, wheel cylinder assembly with wheel piston and brake pad, stationary brake pad, brake caliper</p> <p>Brake torque rod details</p>
UNIT-VIII- wheels and Tyres	<ul style="list-style-type: none"> Dismantling and assembly of front and rear wheels during repairs. Analysis of wear of tyres for replacement 	<p>Wheels: Types of wheels as wire spoke wheels, pressed wheels, die cast wheels.</p> <p>Details of front wheel assembly, Front wheel axle, cotter pin, front wheel axle nut, bearings, oil seal</p> <p>Details of Rear wheel assembly, rear wheel axle, cotter pin, wheel axle nut, drive chain puller lock nut.</p> <p>Tyres: Details of Tubed and tubeless tyres. Tyre size markings. Mounting of tyre on wheels.</p>
UNIT- IX- Electrical Systems -I	<ul style="list-style-type: none"> Battery working and connections of battery along with safety. Observation and operation of starting system along with fault finding Observation and operation of 	<p>a. Battery : Conventional lead acid battery, Dry Battery, voltage and capacity, terminals i.e. body terminal and positive terminal of battery. Safety precautions in handling of battery</p> <p>b. Starting system: Layout and functioning</p>

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II	Identify common ports, associated cables, and their connectors. Observe various connectors, ports back and front side of the computer. Write their purpose and specifications. (e.g. Power, PS/2 keyboard and mouse, Serial and parallel, USB, VGA, LAN, Audio & microphone, Firewire, HDMI, games, SATA etc.)	02
III	Identify major components including motherboards, memory, drives, peripheral cards and devices, BIOS, and Windows operating system. Observe the various components on the motherboard, identify it. Also observe their interconnection and arrangement inside the case. Detach and attach the cables and component in the PC case and motherboard. Carryout detailed study on all the components and devices on the given motherboard. • Processor socket ,Chipsets, • Memory module slots, BIOS, CMOS • FDD, HDD connectors • Different types of expansion slots (ISA, EISA, PCI, PCI express, AGP, Express Card & PC Card (or PCMCIA) etc.) • Add-on-cards (audio, graphics, I/O, TV tuner, network etc.) • Cables in a computer system (IDE Ribbon cable, SATA cable etc) • Connections for button, indicator lights etc. • Observe various types of memory modules (SIMM, DIMM, SO-DIMM, RIMM, SO-RIMM). Also observe impact of removal of memory modules from the system, start it and re insert memory module and restart system.	04
IV	Observe the different types of motherboards, form factors and write the difference between the desktop motherboard and laptop motherboard.	02
V	Identify the on-board features of the motherboard. Add additional facilities like the network capabilities, and gaming capabilities by adding an Accelerator card.	02
VI	Observe, search and write the specifications of CD/DVD drive, HDD, motherboard, RAM chips, Power supply, Microprocessor chip, Add on cards.	02
VII	Observe the power supply (SMPS) and measure their voltage levels of a given SMPS. Measure various voltage levels, such as motherboard, storage devices and fan etc. using multi-meter.	02
VIII	Observe the various techniques for low level and high level formatting of Hard Disk. Format the given Hard Disk using any one technique and create three partitions, two for operation systems and one for data	02
IX	Observe the procedure for installing Operating System like win7/win8 with partition formatted in previous practical in one partition, (fat, fat16, fat32, ntfs, gpt). Try booting PC. Learn the content of boot.ini after the installation process. Now install unix Operating System like Linux /Ubuntu/ centos/ fedora/ red hat in another partition. Create dual booting system try booting PC.	04
X	Observe different types of printers (dot matrix, inkjet & laser, multifunction). Install driver and interface the printers with PC/Laptop on any operating system (connect the printer to one PC directly using USB/Serial/Parallel ports as per the availability; test the functioning of the printer.)	02
XI	Observe the interfacing, installation and working of various devices such as scanner, projector, web cam etc. Connect all these devices with	02

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Controller, DVD Drives	disk. 2.c Explain types of DVD, recording and constructions 2.d list blue-ray disk specification	(Firewire), RAID, Solid State Drive (laptop) 2.3 Disk Geometry : Heads, Tracks, Sectors, Cylinders, Cluster, Landing zone, MBR, Zone bit recording. 2.3 DVD Drives : Types, Recording, Construction, Interfacing, 2.4 Blu-ray disk specification
UNIT-III Input Devices and Printers	3a. Explain operation of keyboard 3b. Explain operation of mouse 3c. Explain working of scanner 3d. Classify printer 3e. Describe the working of LaserJet and Ink-jet Printer .	3.1 Keyboard : Keyboard operation, Keyboard Types , Types of Key switches (Membrane, mechanical, rubber dome, capacitive) 3.2 Keyboard interfaces 3.3 Mouse : Types, Operation, Interfaces 3.4 Scanner : Scanner Types, Image quality measurement, Working. 3.5 Types of Printers 3.6 Printer Interfaces 3.7 Ink-jet Printer : Parts, working principle 3.8 LaserJet Printer : Parts, working principle.
UNIT-IV Monitor and Display Adapters	4a. Define video basics (CRT parameters) and VGA monitors 4d. Differentiate graphic cards 4e. Explain their applications	4.1 Video Basics (CRT parameters) 4.2 VGA monitors 4.4 Graphics Cards : Components of a card, Accelerated Video cards, CGA, EGA, VGA
UNIT-V Trouble Shooting and Preventive Maintenance	5b. Explain troubleshooting procedures of listed peripherals and motherboard 5c. Discuss preventive maintenance techniques 5d. List the Preventive maintenance tools	5.2 Troubleshooting : possible problems and diagnosis • Motherboard • Keyboard • Hard Disk Drive • Printer 5.3 Preventive maintenance tools

SUGGESTED LIST OF EXERCISES/PRACTICALS

Unit No.	Practical Exercises/Tutorial	Approx. Hrs. required
I	Identify basic components of a personal computer. Prepare a list of various computer peripherals. (e.g. CPU, Monitor, Keyboard, Mouse, Speaker, Web cam, Printer, Scanner, microphone, speakers, modem, projector etc).	02

	ignition system along with fault finding • Observation and operation of charging system along with fault finding	of starting system with parts as battery, fuse, main switch, starter relay, starter motor, starter switch, one way clutch to connect starter gear with flywheel c. CDI Ignition system: Layout and working of CDI ignition system with details of Flywheel Magneto, charging coil and lighting coil, pickup coil, main switch, CDI unit, Ignition coil, Rectifier and Regulator (RR) unit, Spark plug, fuse and Battery. d. Charging System: Layout and working of charging system with details of Flywheel magneto, charging coil, Rectifier and Regulator unit (RR unit), battery
UNIT- X- Electrical Systems -II	<ul style="list-style-type: none"> • Identification and locations of flasher lights and circuit • Fault finding in flasher light circuit • Identification and locations of brake lights and circuit • Fault finding in brake light circuit • Identification and locations of horn and circuit • Fault finding in horn circuit • Identification and locations of different lights and their circuit • Fault finding in lighting circuit 	<p>a. Signaling System: Details of Flasher light circuit with battery, fuse, flasher relay, flasher switch, flasher lights. Details of brake light circuit with battery, fuse, main switch, brake switch, brake lights Details of Horn circuit with battery, fuse main switch, horn switch and horn</p> <p>b. Lighting system: Details of lighting system circuit with details of Lighting coil, Rectifier and Regulator unit (RR unit), Main Light Switch, Light upper and Dimmer switch, Head light, High beam indicator light, meter light, Tail light</p>



SUGGESTED EXERCISES /PRACTICALS:

Unit No.	Practical Exercises	Approx. Hours Required
I	Exposure to various workshop tools and equipments by practical demonstrations and handling.	02
II	Observation and Identification of various parts of Motorcycle/Scooter/Moped	01
III	Dismantling and assembling of Fuel tank, Hand operated fuel cock, carburetor, Air cleaner and Air Filter	04
IV	Dismantling and assembling of Four stroke motorcycle/ scooter	04

	engine .	
V	a. Dismantling and assembling of Primary reduction driving and driven gear , Multi plate clutch, Transmission Gear box and Gear shift mechanism b. Dismantling and assembly of Continuously Variable Transmission (CVT) system of a scooter	04
VI	Dismantling and assembly of telescopic front fork suspension , Rear suspension with conventional two shock absorbers for a motor cycle/scooter	02
VII	Dismantling and assembly of Disc and Drum brakes of motor cycle/scooter	02
VIII	Removal and refitting of front and rear wheels with tyres.	02
IX	Identification,observation and practical demonstration of Starting system of motor cycle/scooter	02
X	Identification,observation and practical demonstration of Ignition system of motor cycle/scooter	02
XI	Identification,observation and practical demonstration of Charging system of motor cycle/scooter	01
XII	Identification,observation and practical demonstration of Signaling system of motor cycle/scooter	02
XIII	Identification,observation and practical demonstration of Lighting system of motor cycle/scooter	02
IXV	Visit to Two wheeler shop/Institute's Yamaha centre	02
	Total	32

SUGGESTED LEARNING RESOURCES: REFERENCE BOOKS

Sr. No.	Title And Edition
1.	Manuals of Two wheeler companies like Bajaj, Honda, Yamaha, Tvs,Suzuki,Mahindra ,Hero etc.
2.	Tools and Equipments required for Two wheeler maintenance
3.	Actual Two wheeler vehicles.

SIGN AND NAME OF CURRICULUM DESIGNER

NAME:

18



COURSE TITLE: COMPUTER HARDWARE MAINTENANCE

COURSE CODE: 6G323

TEACHING AND EXAMINATION SCHEME

Particular	Theory	Practical	Term Work	Total
Credits	---	02	---	02

RATIONALE:

For the smooth functioning of computer system it is frequently required to upkeep, maintain, repair, troubleshoot and take up preventive maintenance of the system and its peripheral devices. Therefore it is essential for the students to acquire skills in the area of computer maintenance and troubleshooting and its preventive maintenance.

This course is focused on developing skills in installation and configuration of Operating systems, loading and configuring various device drivers, diagnosing the faults and troubleshoots the computer at software level as well as component level.

COURSE OUTCOMES:

Survey various Operating Systems and device drivers.

Integrate various components in computer system and peripheral devices.

Find errors, diagnose faults, repair and maintain computer system and its peripherals.

Test, Connect and install the peripherals.

Find error in computer system.

COURSE CONTENTS:

Unit	Major Learning Outcome	Topics and Sub-topics
UNIT-I Inside the PC: Core Component s	1a. List and Identify the components of computer system 1b. State devices required for using laptops 1c. List ports and connecting devices 1d. Draw and explain the functional block diagram of motherboard 1.e. Explain BIOS features	1.1 Identify different type and generation of computer, Identify devices required for using laptops, Identify components which makes the system and specify its importance. Identify various types of ports and its connecting devices. Motherboard: definition, Components/connections in motherboard, functional block diagram 1.2 Basic Input Output System :Services, Bios Interaction, CMOS-RAM
UNIT-II Hard Disk Drive and	2a.Define: Heads, Tracks, Sectors, Cylinders, Cluster, Landing zone, MBR, Zone bit recording . 2b.Describe functioning of hard	2.1 Disk Basics 2.2 Hard Disk Interfaces: EIDE, Serial ATA, SCSI, USB and IEEE 1394

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