

BASIC WORKSHOP PRACTICE LAB			
Course Code	21AGL35	CIE Marks	50
Teaching Hours/Week (L:T:P: S)	(0:0:2:0)	SEE Marks	50
Credits	01	Exam Hours	03
Course objectives: <ul style="list-style-type: none">To identify tools, work material and measuring instruments useful for fitting, carpentry, Sheet metal working and Smithy practiceTo handle tools and instruments and use them to prepare joints of specific shape and size			
Sl.NO	Experiments		
1.	Fitting: Introduction, Various tools used in fitting shop- Holding tools; Marking and Measuring tools; Striking tools; Cutting tools; finishing tools		
2.	Preparation of Square fitting model in fitting shop		
3.	Preparation of V fitting model in fitting shop		
4.	Carpentry: Introduction, Timber, classification and characteristics; Various tools used in carpentry shop- Holding tools; Marking and Measuring tools; Striking tools; Planing tools; Cutting tools – saws and chisels		
5.	Preparation of T-Lap joint model in Carpentry shop		
6.	Preparation of Dove-tail Lap joint model in Carpentry shop		
7.	Sheet metal working: Introduction, Sheet metals used in metal work; Various tools used- Holding tools; Marking and Measuring tools; Striking tool – hammers and mallets; Snips; Stakes		
8.	Preparation of Open scoop model in Sheet metal shop		
9.	Preparation of Rectangular tray model in Sheet metal shop		
10.	Smithy: Introduction, Principle of forging; Various tools used- Holding tools; Marking and Measuring tools; Striking tool – hammers; Flatters; Swage block; V-Block; Tongs, etc		
11.	To prepare S-Hook from a given round rod		
12.	To make a square rod from a given round rod.		
Course outcomes (Course Skill Set): At the end of the course the student will be able to: <ul style="list-style-type: none">To select suitable tools and equipment to prepare joints using bench-work tools.To produce joints using materials of specific shape and size by a suitable PO1,PO3, PO5, PSO1, set of operations and check the accuracy of shape and dimensions using suitable measuring tools.			

Assessment Details (both CIE and SEE)

The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is 50%. The minimum passing mark for the CIE is 40% of the maximum marks (20 marks). A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each course. The student has to secure not less than 35% (18 Marks out of 50) in the semester-end examination (SEE).

Continuous Internal Evaluation (CIE):

CIE marks for the practical course is 50 Marks.

The split-up of CIE marks for record/ journal and test are in the ratio 60:40.

- Each experiment to be evaluated for conduction with observation sheet and record write-up. Rubrics for the evaluation of the journal/write-up for hardware/software experiments designed by the faculty who is handling the laboratory session and is made known to students at the beginning of the practical session.
- Record should contain all the specified experiments in the syllabus and each experiment write-up will be evaluated for 10 marks.
- Total marks scored by the students are scaled down to 30 marks (60% of maximum marks).
- Weightage to be given for neatness and submission of record/write-up on time.
- Department shall conduct 02 tests for 100 marks, the first test shall be conducted after the 8th week of the semester and the second test shall be conducted after the 14th week of the semester.
- In each test, test write-up, conduction of experiment, acceptable result, and procedural knowledge will carry a weightage of 60% and the rest 40% for viva-voce.
- The suitable rubrics can be designed to evaluate each student's performance and learning ability. Rubrics suggested in Annexure-II of Regulation book
- The average of 02 tests is scaled down to 20 marks (40% of the maximum marks).

The Sum of scaled-down marks scored in the report write-up/journal and average marks of two tests is the total CIE marks scored by the student.

Semester End Evaluation (SEE):

SEE marks for the practical course is 50 Marks.

SEE shall be conducted jointly by the two examiners of the same institute, examiners are appointed by the University

- All laboratory experiments are to be included for practical examination.
- (Rubrics) Breakup of marks and the instructions printed on the cover page of the answer script to be strictly adhered to by the examiners. OR based on the course requirement evaluation rubrics shall be decided jointly by examiners.
- Students can pick one question (experiment) from the questions lot prepared by the internal /external examiners jointly.
- Evaluation of test write-up/ conduction procedure and result/viva will be conducted jointly by examiners.
- General rubrics suggested for SEE are mentioned here, writeup-20%, Conduction procedure and result in -60%, Viva-voce 20% of maximum marks. SEE for practical shall be evaluated for 100 marks and scored marks shall be scaled down to 50 marks (however, based on course type, rubrics shall be decided by the examiners)
- Change of experiment is allowed only once and 15% Marks allotted to the procedure part to be made zero.

The duration of SEE is 03 hours

Rubrics suggested in Annexure-II of Regulation book

Suggested Learning Resources:

Text Books

1. Elements of Mechanical Engineering - Hajra Choudhury & others, Media Promoters 2010.
2. The Elements of Workshop Technology - Vol I & II, S.K. Hajra Choudhury, A.K. Hajra Choudhury, Nirjhar Roy, 11th edition 2001 others, Media Promoters and Publishers, Mumbai.

Introduction to PYTHON (AEC-III)			
Course Code	21AG381	CIE Marks	50
Teaching Hours/Week (L:T:P: S)	0:0:2:0	SEE Marks	50
Credits	25	Exam Hours	2
Course objectives:			
<ul style="list-style-type: none">Statistical tests. The course provides hands-on training in usage of basic concepts, control structures, data structures, object oriented programming, exceptional handling and plotting of graphical entities.			
Sl.NO	Experiments		
1	Implement the following tasks a) Write a python program to check whether the number is positive or negative. b) Write a python program to find whether a given number is even or odd. c) Write a python program to find biggest number among three numbers.		
2	Implement the following tasks a) Write a python program to displaying reversal of a number. b) Write a python program to print factorial of a number c) Write a python program to generate prime numbers series up to N		
3	Implement following problems using python script a) Swapping of two number with and without using temporary variable. b) If the age of Ram, Sam, and Khan are input through the keyboard, write a python program to determine the eldest and youngest of the three. c) Arithmetic operations (Addition, Subtraction, Multiplication, and Division) on integers. Input the two integer values and operator for performing arithmetic operation through keyboard.		
4	Implement the following tasks a) Implement the python program to generate the multiplication table. b) Implement Python program to find sum of natural numbers c) If the first name of a student is input through the keyboard, write a program to display the vowels and consonants present in his/her name.		
5	Implement the following tasks a) The marks obtained by a student in 5 different subjects are input through the keyboard. Find the average and print the student grade as per the SIETK examination policy. b) Given a number x, determine whether it is Armstrong number or not. Hint: For example, 371 is an Armstrong number since $3^3 + 7^3 + 1^3 = 371$. Write a program to find all Armstrong number in the range of 0 and 999.		
6	Implement the following tasks a) Write a Python script to • create a list • access elements from a list • slice lists • change or add elements to a list • delete or remove elements from a list b) Write a Python script to read the values from a list and to display largest and smallest numbers from list. c) Write a Python script to compute the similarity between two lists.		
7	Implement the following tasks a) Write a Python script to read set of values from a Tuple to perform various operations. b) Write a Python script to perform basic dictionary operations like insert, delete and Display. c) Write a Python program to count the occurrence of each word in a given sentence.		
8	Implement the following tasks a) Write a Python script to create Telephone Directory using dictionary and list to perform basic functions such as Add entry, Search, Delete entry, Update entry, View and Exit. b) Implement Python script to display power of given numbers using function. c) Implement a Python program that takes a list of words and returns the length of the longest one using function.		
Demonstration Experiments (For CIE)			
9	Implement the following tasks a) Implement Python program to perform various operations on string using string libraries. b) Implement Python program to remove punctuations from a given string.		

	c) Write a Python program to change the case of the given string (convert the string from lower case to upper case). If the entered string is —computer , your program should output—COMPUTER without using library functions.
10	Implement the following tasks a) Implement Python program to capitalize each word in a string. For example, the entered sentence —god helps only people who work hard to be converted as —God Helps Only People Who Work Hard e) Write a Python script to display file contents. f) Write a Python script to copy file contents from one file to another.
11	Implement the following tasks a) Write a Python script to combine two text files contents and print the number of lines, sentences, words, characters and file size. b) Write a Python commands to perform the following directory operations. • List Directories and Files • Making a New Directory • Renaming a Directory or a File • Removing Directory or File
12	Implement the following tasks a) Create a package named Cars and build three modules in it namely, BMW, Audi and Nissan. Illustrate the modules using class. Finally we create the init .pyfile. This file will be placed inside Cars directory and can be left blank or we can put the initialization code into it. b) Write a python script to display following shapes using turtle.



Course outcomes (Course Skill Set):

At the end of the course the student will be able to:

- Ability to program on basic concepts, control structures.
- Ability to implement data structures and their operations
- Ability to work on object oriented programming
- Ability to handle exceptional handling and plotting of graphical entities.
- Ability to develop any real world problem

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The duration of SEE is 03 hours

Rubrics suggested in Annexure-II of Regulation book

Suggested Learning Resources:

1. VamsiKurama, Python Programming: A Modern Approach, Pearson
2. ReemaThareja, Python Programming - Using Problem Solving Approach, First Edition (English, Paperback), Oxford University Press.
3. Mark Lutz, Learning Python, Orielly
4. Allen Downey, Think Python, Green Tea Press
5. W.Chun, Core Python Programming, Pearson.
6. Kenneth A. Lambert, Introduction to Python, Cengage
7. Michael T. Goodrich , Roberto Tamassia, Michael H. Goldwasser, Data Structures and Algorithms in Python, 1st Edition , kindle Edition .

SENSORS & ACTUATORS (AEC-III)

Course Code	21AG382	CIE Marks	50
Teaching Hours/Week (L:T:P: S)	1:0:0:0	SEE Marks	50
Total Hours of Pedagogy	16	Total Marks	100
Credits	01	Exam Hours	01

Course objectives:

- To provide the fundamental knowledge about sensors and measurement system.
- To impart the knowledge of static and dynamic characteristics of instruments and understand the factors in selection of instruments for measurement.
- To discuss the principle, design and working of transducers for the measurement of physical time varying quantities.
- To Understand the working of various actuators suitable in industrial process control systems

Teaching-Learning Process (General Instructions)

These are sample Strategies, which teachers can use to accelerate the attainment of the various course outcomes.

1. Lecturer method (L) needs not to be only traditional lecture method, but alternative effective teaching methods could be adopted to attain the outcomes.
2. Use of Video/Animation to explain functioning of various concepts.
3. Encourage collaborative (Group Learning) Learning in the class.
4. Ask at least three HOT (Higher order Thinking) questions in the class, which promotes critical thinking.