| Metric No. | | Weightage |
|---|---|---|
| 7.2.1 QlM | **Describe two best practices successfully implemented by the Institution as per NAAC format provided in the Manual.**<br>**Response:**<br>Best Practices at Kommuri Pratap Reddy Institute of Technology:<br>KPRIT, over a period of 11 years, has developed some best practices which added to the quality improvement in terms of teaching and learning at the Institute. KPRIT's best practices are the educational strategies, activities and approaches undertaken to ensure that each student gets maximum benefit from the educational experience at the Institute.<br>**Best Practice I:**<br>**1. Title of the Practice: "Societal Empowerment through Innovative Student Projects"**<br>**2. Objective of the practice:**<br>• Involve students and faculty in interdisciplinary research in cutting-edge technologies<br>• To sharpen the student's practical laboratory skills.<br>• To upgrade the student's ability to collect, analyze and interpret experimental data.<br>**3. Context:**<br>The course structure assigns credits to the industry participation through Mini-Projects, Major Projects addressing the societal needs and Internships. The faculty members of the institute, encourages students and promotes research and innovation in the present technological revolutionary change.<br>**4. Practice:**<br>• Course-based projects, Certificate Courses, Weekend projects and classroom learning into a project-based experience.<br>• Laboratories are established in every department identifying the respective domain expertise.<br>• Project exhibitions are organized to explore the ideas of project work. | 30 |

**5. Evidence of Success:**

- Projects like Electronic Mirror using Raspberry Pi, War Field Spy Robot with Wireless Night Vision Camera and Voice Based Path Control of Robot with AI successfully completed by students which are useful to society.
- Some Projects prepared by students like, Analysis and Prediction of Seer Cancer (Breast) using Machine Learning, Design of Power Efficient Rounding based Approximate Multiplier for DSP in Xilinx, and Optimal Implementation of 4×4 FIFO Queues in A Single Level Memory are useful for updating the present technology.

**6. Problems Encountered and Resources Required:**

- Maintaining equilibrium between Research and Academia.
- Identifying and retaining the research team Expertize/training in upcoming technologies, on a continuous basis.
- Institutional network beyond the academic sphere.
- Development of non-scientific skills related to research.

**7. Notes:**

In the interest of the college and for the benefit of the students, it is necessary to take up student's project initiation which will improve their knowledge and it will be beneficial to society too.

**Best Practice II:**

**1. Title of the Practice: "Fusion of "Learner-centric" Pedagogy to achieve Course Outcomes"**

**2. Objective of the practice:**

- Various teaching learning methods implemented to enhance the performance of students.
- Increase the industrial exposure of students by industrial training and visit.
- Lerner centric approach used to achieve course outcomes.

**3. Context:**

Outcome-based education (OBE) is a model of teaching learning process that rejects the traditional teaching learning methods. Students should gain the knowledge of the subject and they can able to do whatever outcomes are specified in the given course.

Outcome based education (OBE) is student-centric process model which is focusing on measurement of performance of student through specified course outcomes. Outcomes include knowledge, skills, and attitudes and also based on Blooms taxonomy levels. Its focus remains on evaluation of outcomes of the program by stating the knowledge, skill and behavior a graduate is expected to attain upon completion of a. In this teaching learning process, the required knowledge and skill is predetermined and the students are evaluated for all the required parameters (outcomes) during their study in the institute.

**4. Practice:**

- Course file preparation for individual subject and course objectives and outcomes are specified.
- Institutional and departmental calendar prepared in accordance with university calendar to perform the regular activities along with industrial visits, workshops, expert talks, technical events and extracurricular activities.
- Organization of regular faculty members meeting with head of the department and principal for smooth functioning of the institute to achieve the specified goal.

**5. Evidence of Success:**

- Improvement in students' performance in the university result.
- Training and placement of students also improved due outcome based education process which includes learner centric pedagogy.

**6. Problems Encountered and Resources Required:**

- To set the new teaching learning methodology, new devices and models need to prepare.
- Mobile phones are required to allow in the classroom in teaching learning process like Plickers.
- Additional classes are required to take for the slow learners.

**7. Notes:**

By implementing this "Learner-centric" Pedagogy process, students are taking more interest in study and faculty members are also improving their

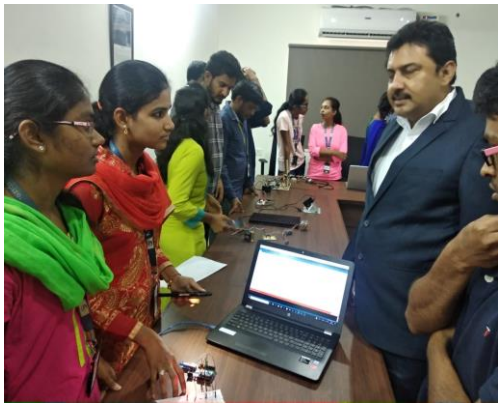
| | | | |
|---|---|---|---|
| | teaching methodology using new teaching learning methods. | | |
| | **File Description** | **Document** | |
| | • Link of best practices in the institutional website<br>• Any other relevant information | View Document | |
| | | | |

# KOMMURI PRATAP REDDY INSTITUTE OF TECHNOLOGY

## Societal Empowerment through Innovative Student Projects

Students are encouraged to do projects which are useful to society. Faculty members are trained students to participate in various project expos for to explore their talent. The institute organizes project expo events, training programs, workshops, seminars so that students get acquainted with latest technology and apply them in their project work.

KPRIT has organized Project expo which provided the platform to the students to showcase their project work. Prof. Rahul Pandya from NIT, Warangal and Dr. Jagadish M Rathod from BVM Engineering College, Gujarat invited as experts to evaluate the projects in project expo. Some pictorial view of project expo is shown below.

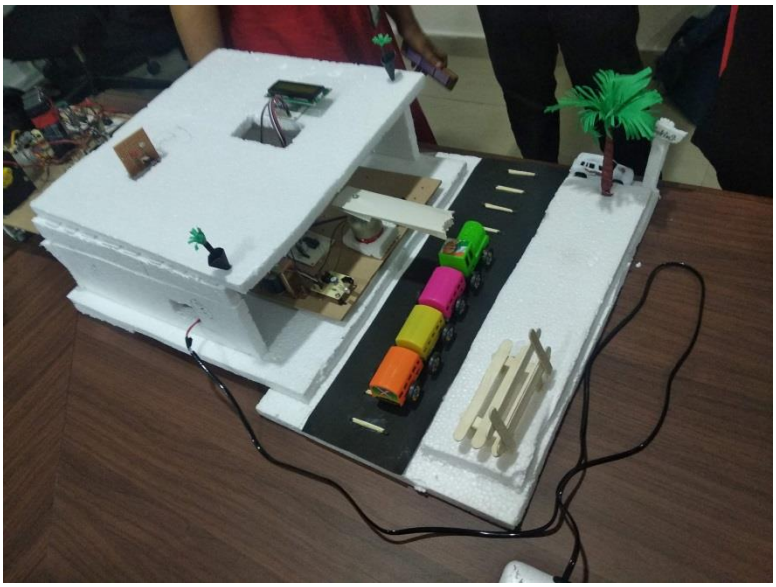


Students are doing project in their final year as a part of curriculum. Few working prototypes are explained here with description which is useful to the society.

**Title: Automatic Railway Bridge System**

**Project Description:** The main aim of this project is to automate railway track pedestrian crossing without using staircase & announce the status of the arrival for platform users. Normally the mobile platform connects the two platforms through which the passenger can walk on the platform to reach on the next platform. Sensors are placed on the two sides of track. If the train reaches one sensor the mobile platform will automatically close and allows the train to go through the tracks and then when the train leaves the second sensor the mobile platform will automatically open the bridging platforms. The microcontroller will sense the presence of train by using infrared sensor. So on sensing the train on one path controller will give pulses to the dc motor to close the mobile platform automatically.

This project is used to avoid the train collision, thus we save the valuable human lives and losses. So this project is useful for railway departments. The Primary objective of Automatic Railway Bridge System is to help the physically Challenged Passenger to move from one Platform to another. Crossing the railway track inside the railway station is very difficult. But it is quite difficult to the handicapped and aged persons to cross the railway track without the help of others. In this project, students make use of a set of resources train characteristics, driving rules and information about other trains to generate their action policy. There are many old peoples suffering from leg cramps walking difficulties leg vain problems and chronic foot pains etc.



That's why to solve this problem, students made a solution in which they made a project on a horizontal adjusted platform which is connected between both stations platform. Because due to this there will be no need to climbing on a bridge by adults as well as children's. This will be time saving for passenger with a smoother operation going to experience by the people or by passengers.

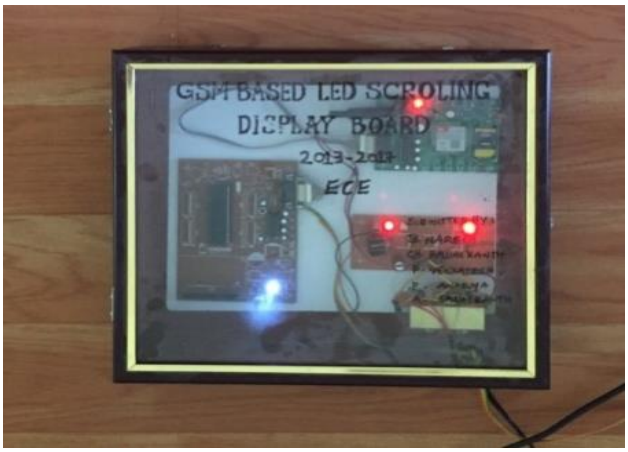
**Title: IoT Enabled Electronic mirror with timer News & Temperature**

**Project Description:** This project describes the design, construction and working of the IOT enabled electronic mirror with News and Temperature. In coming future it plays a key role in daily life. Every morning our day begins by watching ourselves at least once in mirror before leaving our homes. Human being interacts with it psychologically to find out how he/she looks and how their attire is. The raspberry pi stays at back screens and controls the data displayed on mirror. This system uses IoT based circuitry along with the raspberry pi with LCD monitor.

This system allows mirrors to receive news online and display it on the mirror screen along with other details including current temperature, time, date, news etc. For this a special mirror which is designed with acrylic sheet which can function like transparent mirror. The acrylic sheet which can see through mirror provides privacy and allows discreet viewing from the darker side. The mirror stays at the front where the user can watch him/ herself in the mirror at the same time the mirror allows the light from LED or display to pass through it and make available to user interface. Students have used raspberry pi and an LCD monitor. Raspberry pi is the best component to use for this project.

**Title: GSM based LED Scrolling Display Board**

**Project Description:** GSM based LED scrolling display board is a common sight today, advertisement is going digital. The use of scrolling display boards at big shopping malls, railway stations, bus stations and educational institutions is becoming an effective mode of communications in providing information to the people. But these off the shelf units are somewhat inflexible in terms of updating the message instantly. If the user wants to change the message it needs to be done using a computer and hence the person needs to be present at the locations of the display board. It means the message cannot be changed from anywhere. The display board cannot be placed anywhere because of complex and delicate wiring. GSM based LED scrolling display board is a model for displaying notice messages at places that requires real time noticing, by sending the messages in the form of SMS through mobile. This project aims to develop a sign board which empowers the user to change the scrolling message using SMS service instantaneously unlike a desk bound such as a PC or laptop.





**Title: Analysis and Prediction of Seer Cancer (Breast) using Machine Learning**

**Project Description:** Survival prediction for cancer patients can increase the prognostic accuracy and might ultimately lead to better informed decision making. To this end, many studies apply machine learning to cancer data of the Surveillance, Epidemiology, and End Results (SEER) program. This work demonstrates the feasibility of reproducible cohort selection and survival prediction with SEER cancer data. Experiments are performed for 1- and 5-year survival of breast and lung cancer with cases diagnosed between 2004 and 2009.

This work compares minimal data preprocessing with 1-n encoding of categorical inputs and apply random forest attributes is analyzed with random forest.

Cancer is the leading cause of death in the world. Most common types are breast and lung cancer. Applying machine learning for survival prediction, i.e. predicting whether a patient will survive a given period of time after diagnosis, can increase the prognostic accuracy and might ultimately lead to better informed decision making. The Surveillance, Epidemiology, and End Results (SEER) program of the National Cancer Institute collects cancer incidence and survival information covering over 30% of the population in the U.S. (Howlader et al. (2017)). Due to its broad coverage and comprehensive data collection, SEER data serves as basis for many survival predictions experiments with machine learning. Reproducibility is a key requirement to obtain comparable results allowing a critical evaluation of new approaches in machine learning. In many disciplines, such as computer vision it is ensured through publicly available datasets and open code. Fully reproducible biomedical research is scarce (Collins and Tabak (2014)). Reproducibility for survival prediction experiments with SEER data can be separated into reproducible cohort selection and reproducible results. During cohort selection an experiment specific subset of all original cases is extracted. For instance, to perform survival prediction cases with benign tumors and certain unknown or missing attributes are commonly excluded. However, in contrast to datasets in most machine learning disciplines these experiment specific selections cannot be published due to privacy restrictions. Hence, cohort selections must be reproducible so that experiments can be conducted on the same data. Reproducible results require same cohorts but also allowing to verify the experimental outcomes. For instance, by publishing the source-code of the experiments, Clinical Relevance Machine learning might improve prognostic models. This work does not present a new method for survival prediction; instead this work uses a simple setup with techniques from recent studies and focus on reproducibility. This work has introduced cohort selection, data extraction, and feature choice. This work considers 1- and 5-year survival for breast and lung cancer based on cases diagnosed between 2004 and 2009. Also it compares minimal data preprocessing with 1-n encoding. With the survival prediction performed with Random Forest Classifier instructions; it ensures both reproducible cohort selection and reproducible results.

This work has identified 34 studies that apply machine learning for survival prediction with SEER cancer data in a literature review. This work extracted information of their

experimental setups and scanned them for efforts to ensure reproducibility. This work showed that past experiments were performed with many different setups but contain no straightforward reproducible cohorts and results. Moreover, there are no studies from different institutions that are based on the exact same input data preventing transparent benchmarking. This work shows that reproducible analysis with SEER data is feasible and present fully reproducible survival prediction experiments for breast and lung cancer with logistic regression and MLPs. This work encourages future studies to build upon our results and follow an open data approach to foster reproducible research. This work shows that reproducible analysis with SEER data is feasible and an accuracy of more than 96% is achievable using Random Forest (Machine Learning). This model can help doctors or other health experts to give a highly accurate feedback to their patients or help with cross-verifying results.

```
import numpy as np # linear algebra
import pandas as pd # data processing, CSV file I/O (e.g. pd.read_csv)

# keeps the plots in one place. calls image as static pngs
import matplotlib.pyplot as plt # side-stepping mpl backend
import matplotlib.gridspec as gridspec # subplots
#conda install -c anaconda mpld3
import mpld3 as mpl

#Import models from scikit learn module:
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LogisticRegression
from sklearn.model_selection import KFold   #For K-fold cross validation
from sklearn.ensemble import RandomForestClassifier
from sklearn.tree import DecisionTreeClassifier, export_graphviz
from sklearn import metrics
```

Importing Required Module

```
In [5]: seer = pd.read_csv("./data.csv",header = 0)
        seer.head()
```

Out[5]:

| | id | diagnosis | radius_mean | texture_mean | perimeter_mean | area_mean | smoothness_mean | compactness_mean | concavity_mean | concave points_mean | ... |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 842302 | M | 17.99 | 10.38 | 122.80 | 1001.0 | 0.11840 | 0.27760 | 0.3001 | 0.14710 | ... |
| 1 | 842517 | M | 20.57 | 17.77 | 132.90 | 1326.0 | 0.08474 | 0.07864 | 0.0869 | 0.07017 | ... |
| 2 | 84300903 | M | 19.69 | 21.25 | 130.00 | 1203.0 | 0.10960 | 0.15990 | 0.1974 | 0.12790 | ... |
| 3 | 84348301 | M | 11.42 | 20.38 | 77.58 | 386.1 | 0.14250 | 0.28390 | 0.2414 | 0.10520 | ... |
| 4 | 84358402 | M | 20.29 | 14.34 | 135.10 | 1297.0 | 0.10030 | 0.13280 | 0.1980 | 0.10430 | ... |

Reading Data-set

```
In [3]: seer.shape

Out[3]: (569, 33)
```

Shape of Data-set

```
In [4]: seer.info()

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 569 entries, 0 to 568
Data columns (total 33 columns):
id                         569 non-null int64
diagnosis                  569 non-null object
radius_mean                569 non-null float64
texture_mean               569 non-null float64
perimeter_mean             569 non-null float64
area_mean                  569 non-null float64
smoothness_mean            569 non-null float64
compactness_mean           569 non-null float64
concavity_mean             569 non-null float64
concave points_mean        569 non-null float64
symmetry_mean              569 non-null float64
fractal_dimension_mean     569 non-null float64
radius_se                  569 non-null float64
texture_se                 569 non-null float64
perimeter_se               569 non-null float64
area_se                    569 non-null float64
smoothness_se              569 non-null float64
compactness_se             569 non-null float64
concavity_se               569 non-null float64
concave points_se          569 non-null float64
symmetry_se                569 non-null float64
fractal_dimension_se       569 non-null float64
radius_worst               569 non-null float64
texture_worst              569 non-null float64
perimeter_worst            569 non-null float64
area_worst                 569 non-null float64
smoothness_worst           569 non-null float64
compactness_worst          569 non-null float64
concavity_worst            569 non-null float64
concave points_worst       569 non-null float64
symmetry_worst             569 non-null float64
fractal_dimension_worst    569 non-null float64
Unnamed: 32                0 non-null float64
```

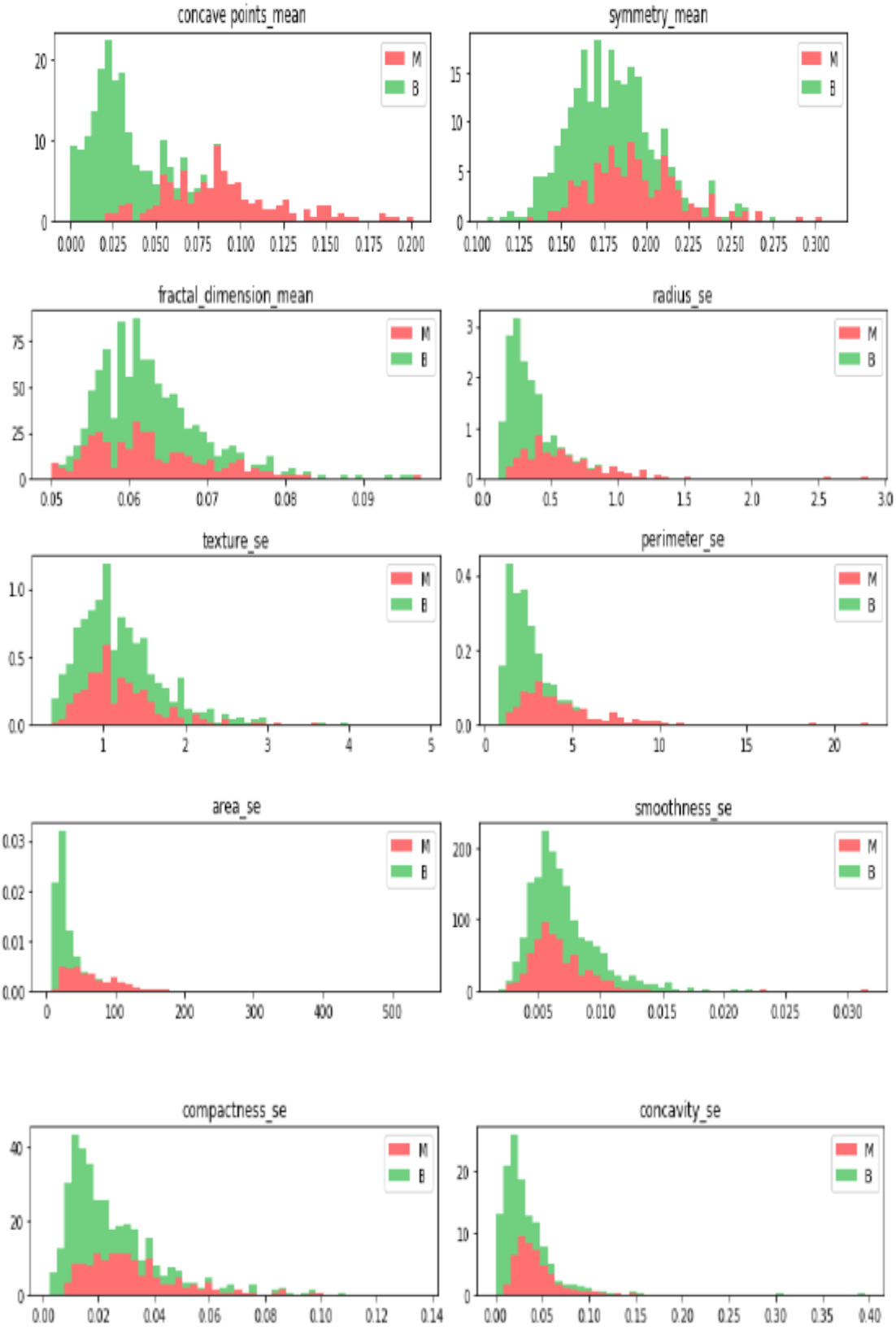
Info regarding the data-set

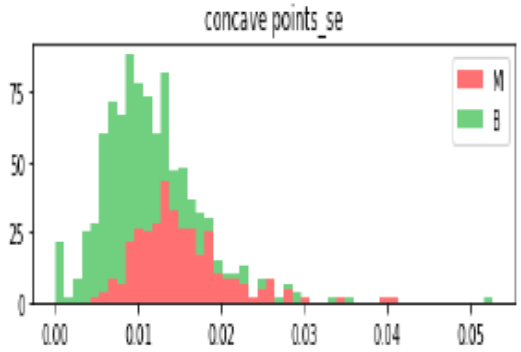
```
In [5]: seer.describe()
```

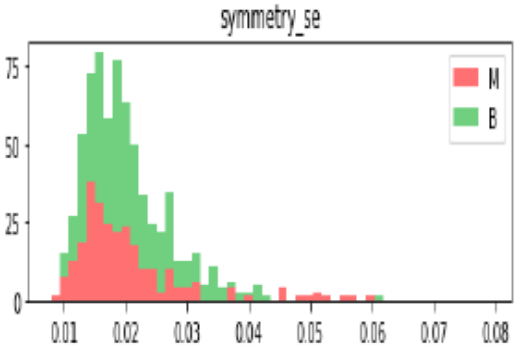
Out[5]:

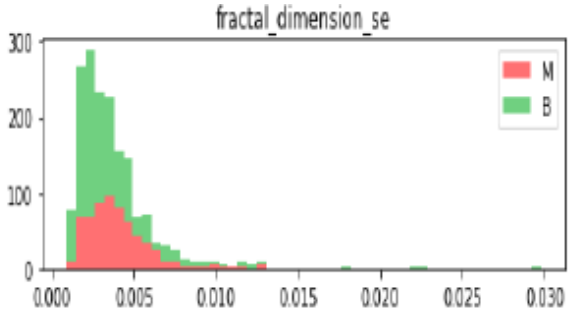
| | id | radius_mean | texture_mean | perimeter_mean | area_mean | smoothness_mean | compactness_mean | concavity_mean | concave points_mean | sym |
|---|---|---|---|---|---|---|---|---|---|---|
| count | 5.690000e+02 | 569.000000 | 569.000000 | 569.000000 | 569.000000 | 569.000000 | 569.000000 | 569.000000 | 569.000000 | |
| mean | 3.037183e+07 | 14.127292 | 19.289649 | 91.969033 | 654.889104 | 0.096360 | 0.104341 | 0.088799 | 0.048919 | |
| std | 1.250206e+08 | 3.524049 | 4.301036 | 24.298981 | 351.914129 | 0.014064 | 0.052813 | 0.079720 | 0.038803 | |
| min | 8.670000e+03 | 6.981000 | 9.710000 | 43.790000 | 143.500000 | 0.052630 | 0.019380 | 0.000000 | 0.000000 | |
| 25% | 8.692180e+05 | 11.700000 | 16.170000 | 75.170000 | 420.300000 | 0.086370 | 0.064920 | 0.029560 | 0.020310 | |
| 50% | 9.060240e+05 | 13.370000 | 18.840000 | 86.240000 | 551.100000 | 0.095870 | 0.092630 | 0.061540 | 0.033500 | |
| 75% | 8.813129e+06 | 15.780000 | 21.800000 | 104.100000 | 782.700000 | 0.105300 | 0.130400 | 0.130700 | 0.074000 | |
| max | 9.113205e+08 | 28.110000 | 39.280000 | 188.500000 | 2501.000000 | 0.163400 | 0.345400 | 0.426800 | 0.201200 | |

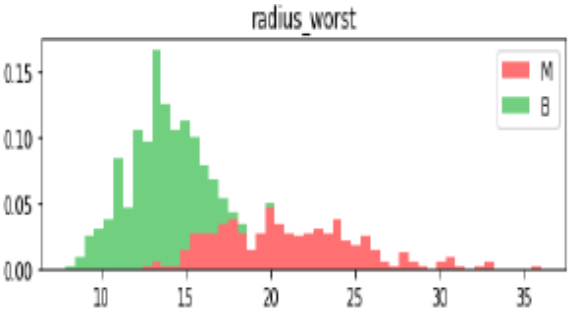
Various statistics regarding the data-set

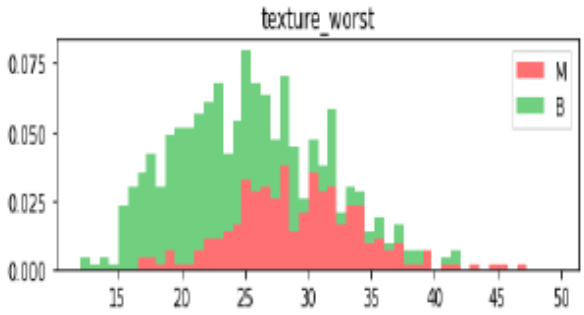

concave points_mean
symmetry_mean
fractal_dimension_mean
radius_se
texture_se
perimeter_se
area_se
smoothness_se
compactness_se
concavity_se
M
B

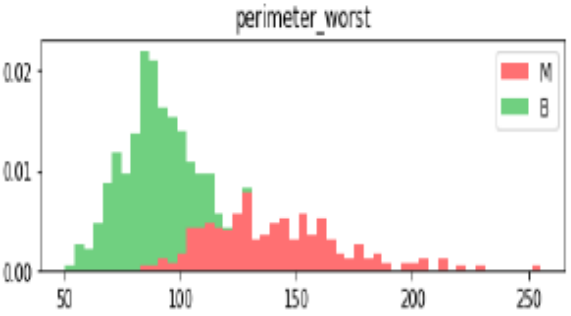

concave points_se
M
B

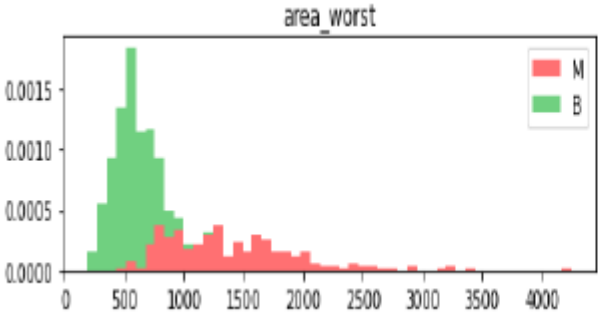

symmetry_se
M
B

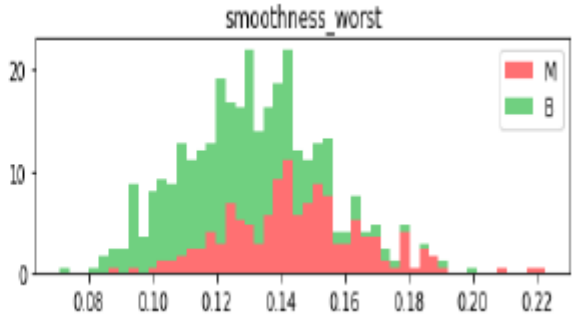

fractal_dimension_se
M
B

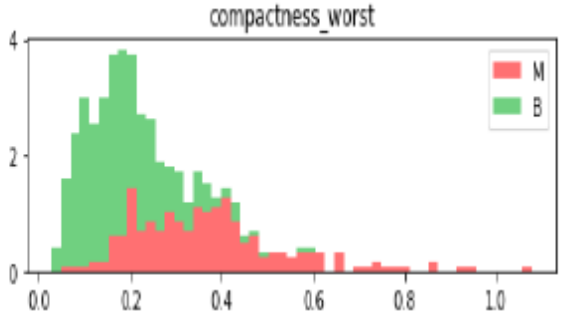

radius_worst
M
B

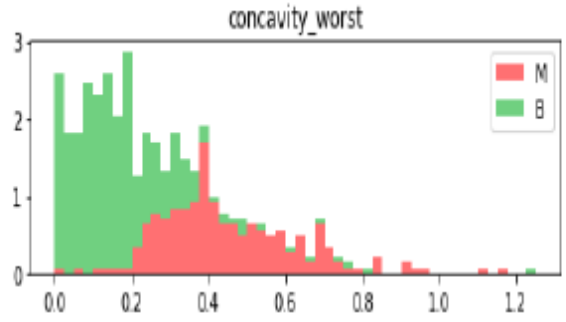

texture_worst
M
B

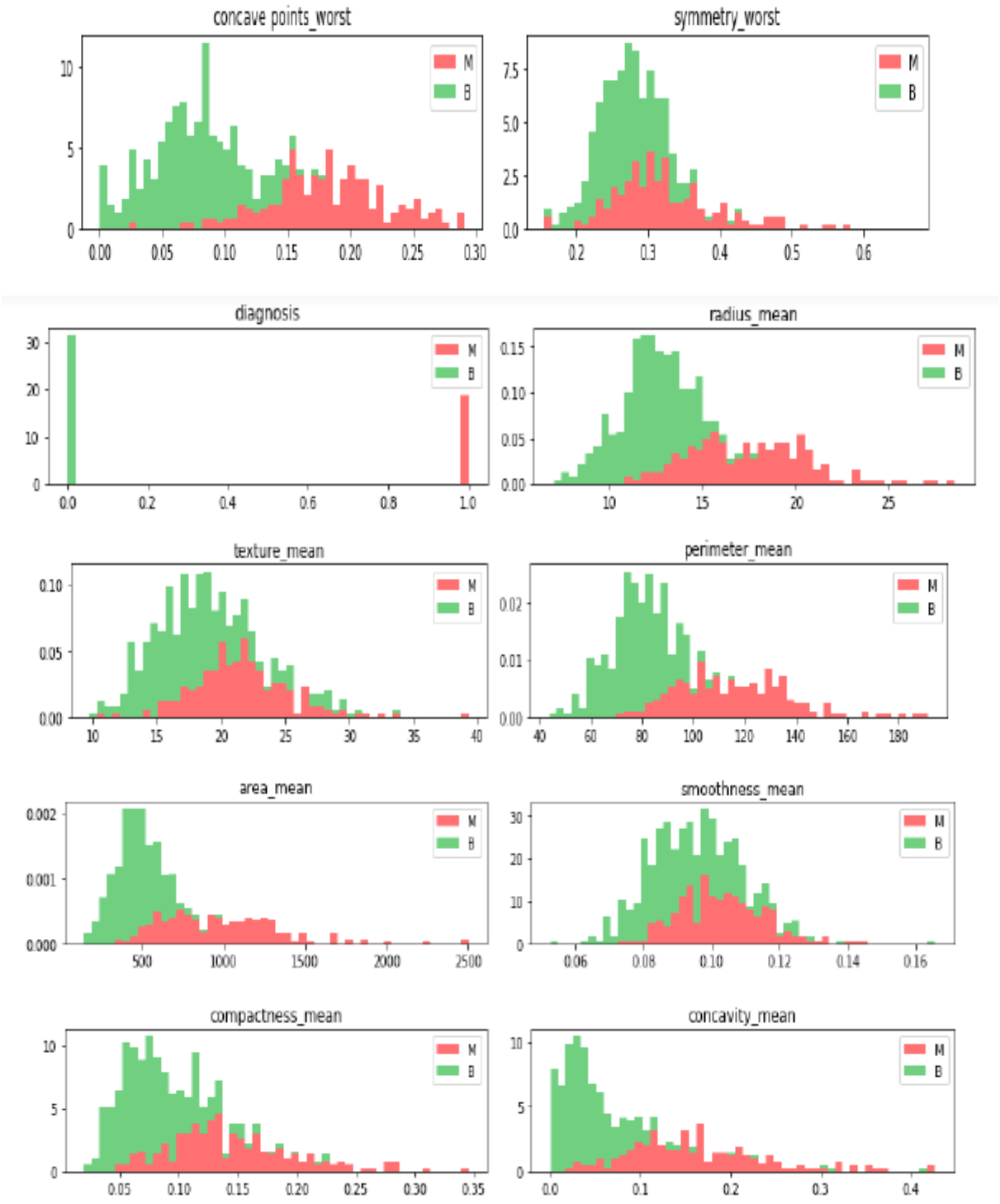

perimeter_worst
M
B


area_worst
M
B


smoothness_worst
M
B


compactness_worst
M
B


concavity_worst
M
B




Histograms of various attributes

```
In [30]: from sklearn.model_selection import train_test_split

In [31]: x_train,x_test,y_train,y_test = train_test_split(x,y,test_size=0.29,random_state=0)

In [32]: from sklearn.ensemble import RandomForestClassifier
         RF= RandomForestClassifier(max_depth=5,n_estimators=100)

In [33]: RF.fit(x_train,y_train)

Out[33]: RandomForestClassifier(max_depth=5)

In [34]: RF.score(x_train,y_train)

Out[34]: 0.9925558312655087

In [35]: RF.score(x_test,y_test)

Out[35]: 0.9578313253012049

In [36]: RF.score(x,y)

Out[36]: 0.9824253075571178
```

Creating a Random Forest Model using the data-set and generating accuracy scores

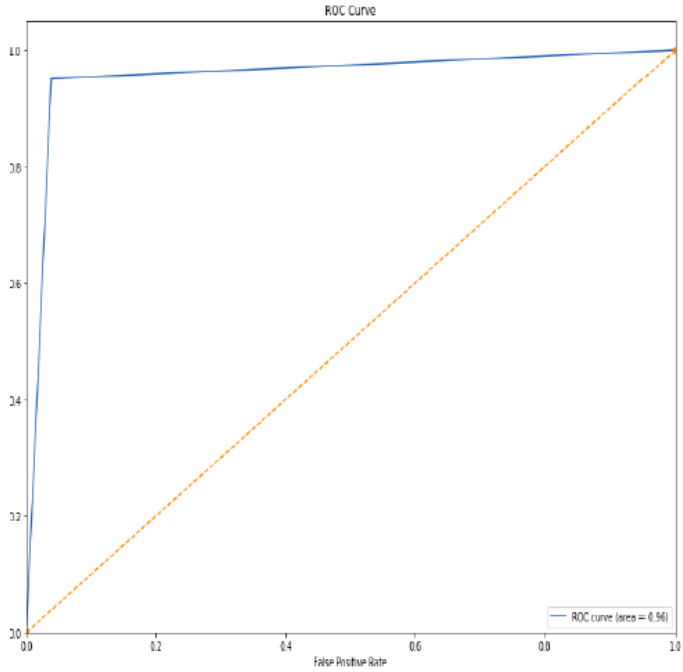
```
In [34]: y_predict=RF.predict(x_test)
         y_predict#predicted values

Out[34]: array([1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 1, 1, 1, 0, 1, 1, 1, 1, 1,
                0, 0, 1, 0, 0, 1, 0, 1, 0, 1, 0, 1, 0, 1, 0, 1, 0, 1, 0, 0, 1, 0,
                0, 1, 0, 0, 0, 1, 1, 1, 1, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 1, 0,
                1, 1, 1, 0, 0, 1, 0, 0, 1, 0, 0, 0, 0, 0, 1, 1, 1, 0, 1, 0, 0, 0,
                1, 1, 0, 1, 0, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 1, 0, 1, 0, 1, 1,
                0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 1, 0, 0, 0, 0, 0, 1, 0,
                0, 0, 0, 0, 0, 1, 1, 0, 0, 0, 1, 0, 0, 1, 0, 1, 0, 0, 0, 1, 0, 0,
                0, 1, 0, 0, 0, 1, 1, 0, 0, 1, 0, 1], dtype=int64)

In [35]: y_test#actual values

Out[35]: array([1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 1, 1, 1, 1, 1,
                0, 0, 1, 0, 0, 1, 0, 1, 0, 1, 0, 1, 0, 1, 0, 1, 0, 1, 1, 0, 1, 0,
                0, 1, 0, 0, 0, 1, 1, 1, 1, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 1, 0,
                1, 1, 1, 0, 0, 1, 0, 1, 1, 0, 0, 0, 0, 0, 1, 1, 1, 0, 1, 0, 0, 0,
                1, 1, 0, 1, 0, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 1, 0, 1, 0, 1, 1,
                0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 1, 0, 0, 0, 0, 0, 1, 0,
                0, 0, 0, 0, 0, 1, 1, 0, 0, 0, 1, 0, 0, 1, 0, 1, 0, 0, 0, 0, 0, 0,
                0, 1, 0, 1, 0, 1, 1, 0, 0, 1, 0, 1], dtype=int64)
```

Predicted Values and Actual Values

```
In [36]: from sklearn.metrics import confusion_matrix, classification_report

         cm_df = pd.DataFrame(confusion_matrix(y_test, y_predict).T, index=RF.classes_,columns=RF.classes_)
         cm_df.index.name = 'Predicted'
         cm_df.columns.name = 'True'
         print(cm_df)

True         0   1
Predicted
0          101   3
1            4  58
```

```
In [37]: print(classification_report(y_test, y_predict))

             precision    recall  f1-score   support

          0       0.97      0.96      0.97       105
          1       0.94      0.95      0.94        61

avg / total       0.96      0.96      0.96       166
```

Confusion Matrix and other classifications of the model on Test data




Area under the curve

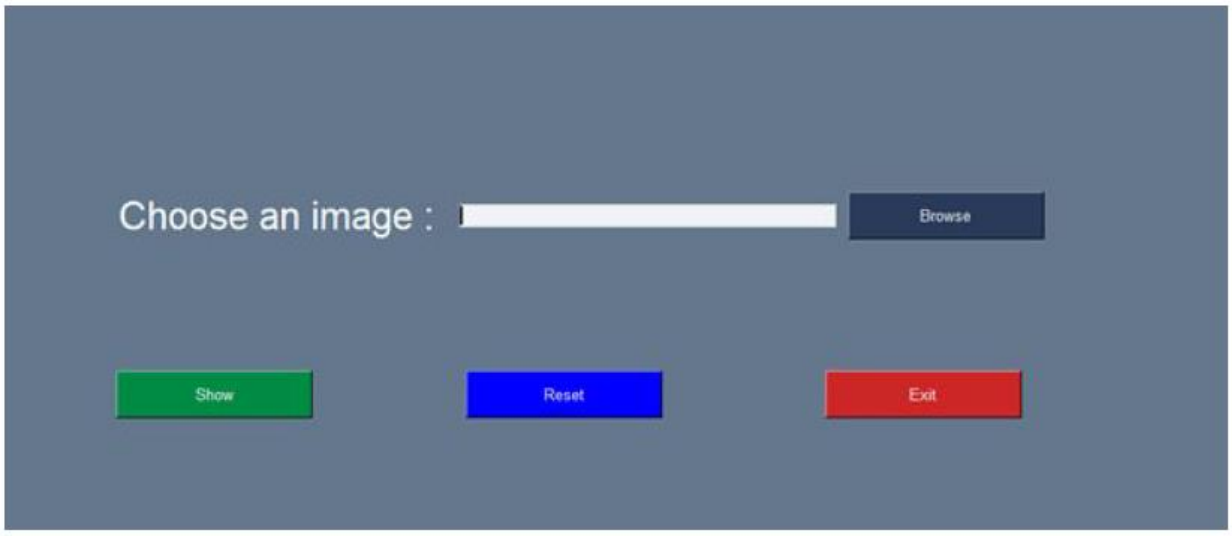
**Title: Hematology Recognition Analysis using Deep Convolution Neural Networks**

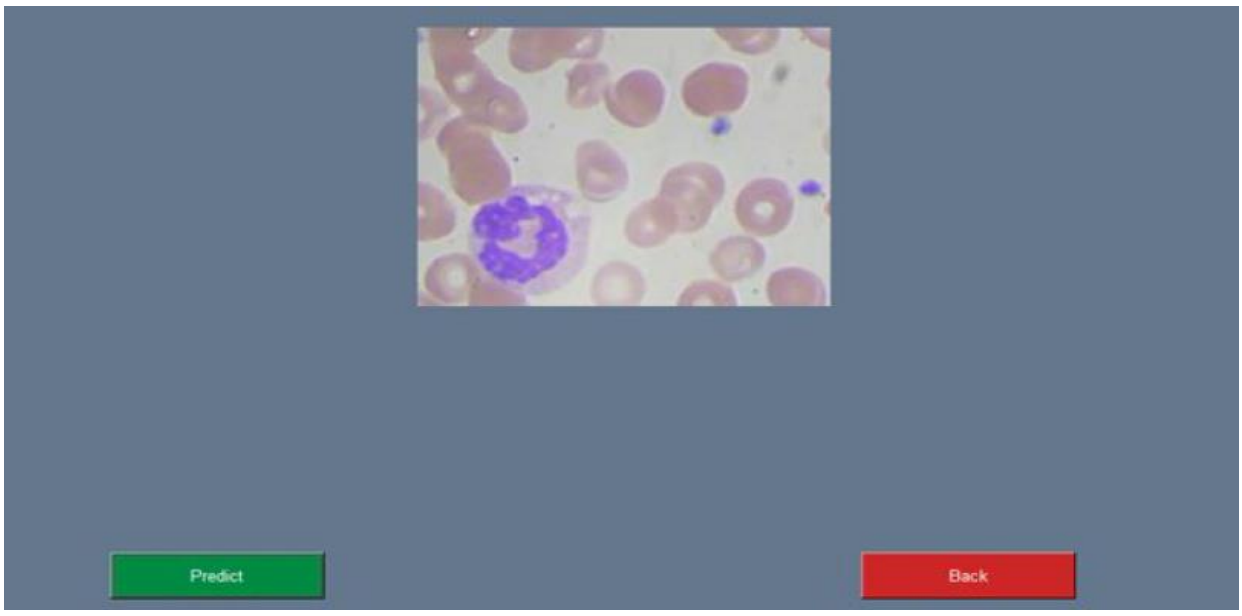
**Project Description:** Deep Learning has already shown power in many application fields, and is accepted by more and more people as a better approach than the traditional machine learning models. In particular, the implementation of deep learning algorithms, especially Convolutional Neural Networks (CNN), brings huge benefits to the medical field, where a huge number of images are to be processed and analyzed. This project aims to develop a deep learning model to address the blood cell classification problem, which is one of the most challenging problems in blood diagnosis A CNN-based framework is built to automatically classify the blood cell images into subtypes of the cells. It detects whether the cell produced is a NEUTROPHILL, EOSINOPHIL, MONOCYTE, and LYMPHOCYTE.

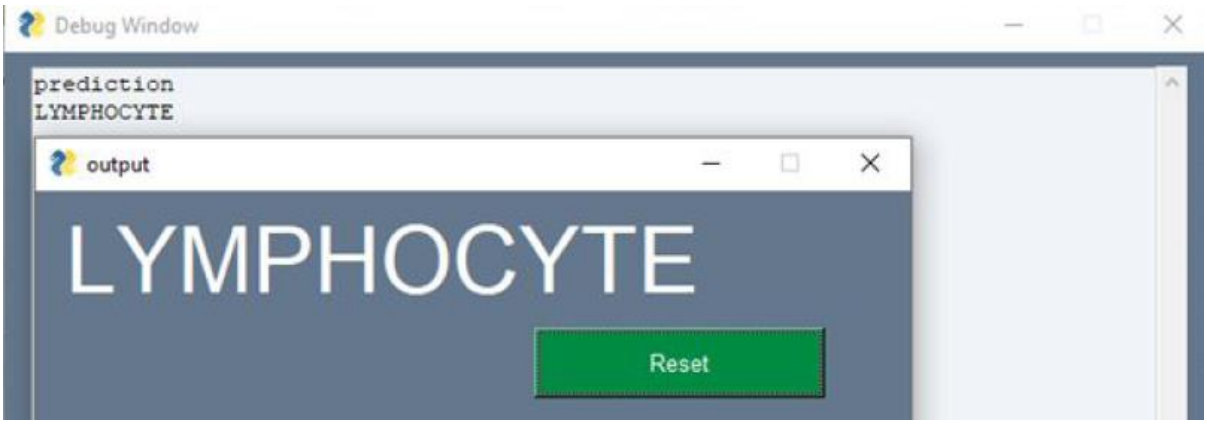
There are three major cellular constituents of the blood: first, Erythrocytes or red cells which are non-nucleated biconcave diskettes with a diameter of about 8 μm. The red cells make up about 48% of the blood volume, and carry oxygen and carbon dioxide around our body. Second, Leukocytes or white blood cells which are nucleated cells with diameters ranging from 6 to 20 μm. Normal blood contains 4000–10000 leukocytes/μl of blood. The white cells play a vital role in the immune system; where they eliminate germs such as bacteria and viruses, and fight cancer cells and other toxic substances. Thirdly, Platelets which are

cytoplasmic fragments of large cells called megakaryocytes. They have a diameter of about 2–4 μm and normal blood containing 150,000–350,000 platelets/μl of blood. The most important function of the platelets is thrombosis and control of bleeding.

This work finally concludes that our proposed model makes the classification task is as easier as compared to other models. This model can automatically classify blood cell images into subtype with high accuracy. This model is very beneficial for blood diagnosis in medical field and can save a lot of time. This work was able to use a simple CNN model to classify the blood cells in our dataset with an accuracy of 98% just based on image level data.






```
In [16]: if result[0] == 0:
    ...:     prediction = 'EOSINOPHIL'
    ...: elif result[0] == 1:
    ...:     prediction = 'LYMPHOCYTE'
    ...: elif result[0] == 2:
    ...:     prediction = 'MONOCYTE'
    ...: elif result[0] == 3:
    ...:     prediction = 'NEUTROPHIL'
    ...:
    ...:
    ...: print('Actual picture is : LYMPHOCYTE')
    ...: print('Model prediction is : ',prediction)
Actual picture is : LYMPHOCYTE
Model prediction is :  LYMPHOCYTE
```

| Layer (type) | Output Shape | Param # |
|---|---|---|
| conv2d_1 (Conv2D) | (None, 62, 62, 32) | 896 |
| max_pooling2d_1 (MaxPooling2 | (None, 31, 31, 32) | 0 |
| conv2d_2 (Conv2D) | (None, 29, 29, 32) | 9248 |
| max_pooling2d_2 (MaxPooling2 | (None, 14, 14, 32) | 0 |
| flatten_1 (Flatten) | (None, 6272) | 0 |
| dense_1 (Dense) | (None, 128) | 802944 |
| dense_2 (Dense) | (None, 4) | 516 |

Total params: 813,604
Trainable params: 813,604
Non-trainable params: 0

**Title: Cardiology Analysis using Machine Learning and Deep Learning**

**Project Description:** In the medical field, the diagnosis of heart disease is the most difficult task. The diagnosis of heart disease is difficult as a decision relied on grouping of large clinical and pathological data. Due to this complication, the interest increased in a significant amount between the researchers and clinical professionals about the efficient and accurate heart disease prediction. Machine learning in recent years has been the evolving, reliable and supporting tools in medical domain and has provided the greatest support for predicting disease with correct case of training and testing. The main idea behind this work is to study diverse prediction models for the heart disease and selecting important heart disease feature using genetic algorithm. The optimized prediction models using genetic algorithm performance is better than traditional prediction models. The performances of the different prediction models retested with different heart disease data sets and validated with real-time data sets.

Abnormalities in normal blood flow from the heart cause several types of heart diseases which are commonly known as cardiovascular diseases (CVD). Heart diseases are the main reasons for death worldwide. According to the survey of the World Health Organization (WHO), 17.5 million total global deaths occur because of heart attacks and strokes. More than 75% of deaths from cardiovascular diseases occur mostly in middle-income and low-

income countries. Also, 80% of the deaths that occur due to CVDs are because of stroke and heart attack. Therefore, detection of cardiac abnormalities at the early stage and tools for the prediction of heart diseases can save a lot of life and help doctors to design an effective treatment plan which ultimately reduces the mortality rate due to cardiovascular diseases. Due to the development of advance healthcare systems, lots of patient data are nowadays available (i.e. Big Data in Electronic Health Record System) which can be used for designing predictive models for Cardiovascular diseases. Data mining or machine learning is a discovery method for analyzing big data from an assorted perspective and encapsulating it into useful information. “Data Mining is a non-trivial extraction of implicit, previously unknown and potentially useful information about data”. Nowadays, a huge amount of data pertaining to disease diagnosis, patients etc. are generated by healthcare industries. Data mining provides a number of techniques which discover hidden patterns or similarities from data. Therefore, in this paper, a machine learning algorithm is proposed for the implementation of a heart disease prediction system which was validated on two open access heart disease prediction datasets.

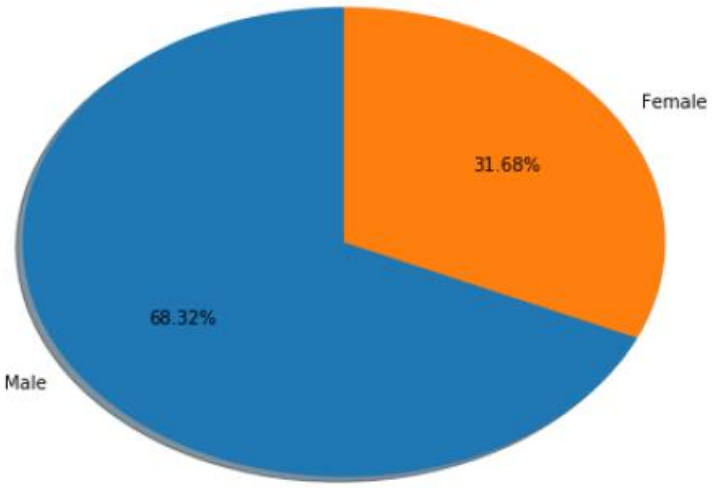
This work proposes methodology for solving the problem. Raw data collected would be pre-processed for missing data, anomalies and outliers. Then an algorithm would be trained on this data to create a model. This model would be used for forecasting the final results. ETL stands for Extract, Transform and load. It is a tool which is a combination of three functions. It is used to get data from one database and transform it into a suitable format. Data preprocessing is a data mining technique used to transform sample raw data into an understandable format. Real world collected data may be inconsistent, incomplete or contains an error and hence data preprocessing is required. It is concluded that varying results are observed with svm classification technique with different kernel functions. Each kernel function yields different results with its own parameters. Tuning kernel parameters leads better accuracy possible with that kernel. With data sets like cancer, liver disorder and heart disease random forest technique is also yielding results comparable with parameter tuned svm results. The results can be better analyzed with confusion matrix. This work can further be extended with other new kernel functions and other classification techniques. The dynamic construction of an ensemble of classifiers, In the random forests, was addressed in this Proposed System.

This work proposes an automated method for the determination of the number of base classifiers in the random forests classification algorithm using an online fitting procedure. A prototype heart disease prediction system is developed using data mining techniques with 14 input attributes. The system extracts hidden Knowledge from a historical heart disease database; models are trained and validated against a test dataset. Classification matrix methods are used to evaluate the effectiveness of the models. Modified Random Forest and Weighted Random Forest are the two methods which could answer complex queries; each with its own strength with respect to ease of model interpretation; access to the detailed information and accuracy of the system.

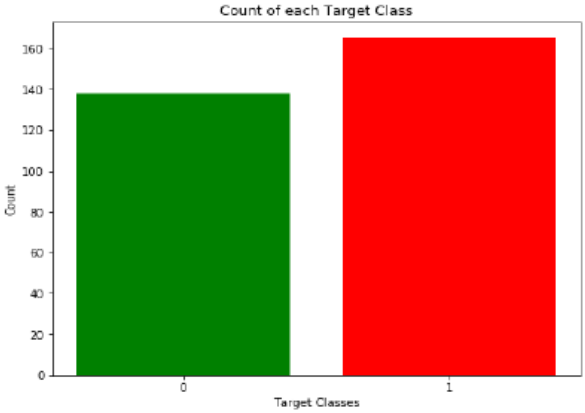
```
In [64]: import numpy as np
         import pandas as pd

In [65]: import os
         os.chdir("F:\\cmr\\heart disease\\New folder")

In [66]: hd=pd.read_csv('heart.csv')
         hd.head()
```

Out[66]:

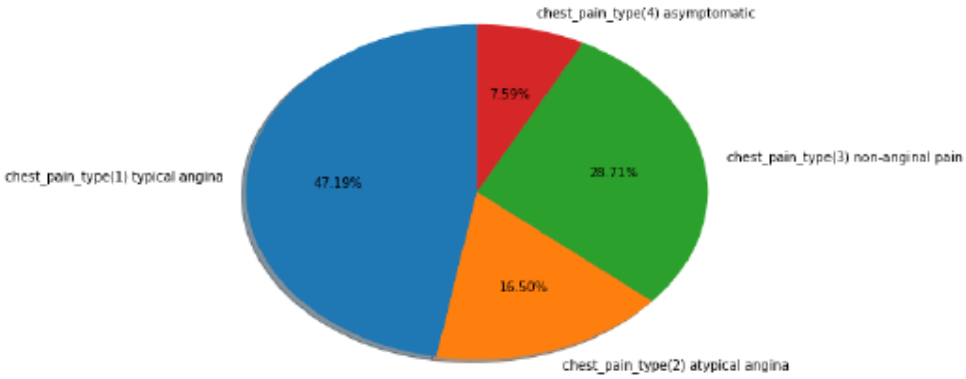
| | age | sex | cp | trestbps | chol | fbs | restecg | thalach | exang | oldpeak | slope | ca | thal | target |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 63 | 1 | 3 | 145 | 233 | 1 | 0 | 150 | 0 | 2.3 | 0 | 0 | 1 | 1 |
| 1 | 37 | 1 | 2 | 130 | 250 | 0 | 1 | 187 | 0 | 3.5 | 0 | 0 | 2 | 1 |
| 2 | 41 | 0 | 1 | 130 | 204 | 0 | 0 | 172 | 0 | 1.4 | 2 | 0 | 2 | 1 |
| 3 | 56 | 1 | 1 | 120 | 236 | 0 | 1 | 178 | 0 | 0.8 | 2 | 0 | 2 | 1 |
| 4 | 57 | 0 | 0 | 120 | 354 | 0 | 1 | 163 | 1 | 0.6 | 2 | 0 | 2 | 1 |



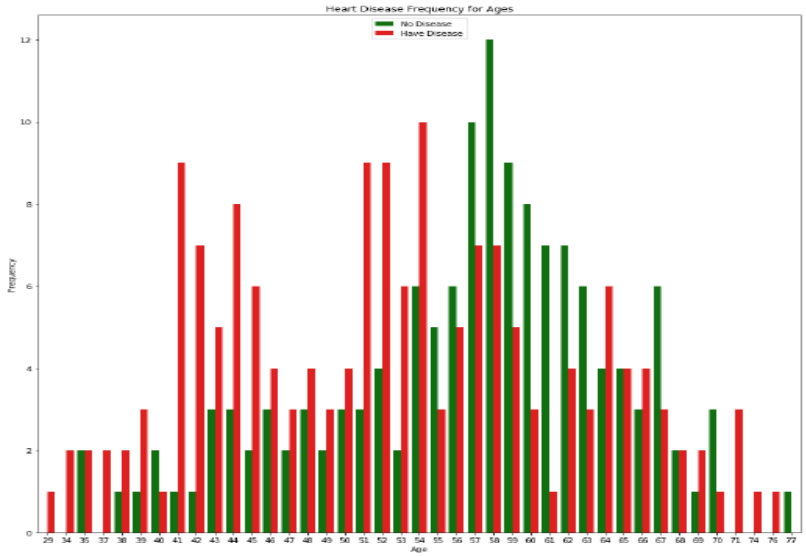

Male Vs Female data



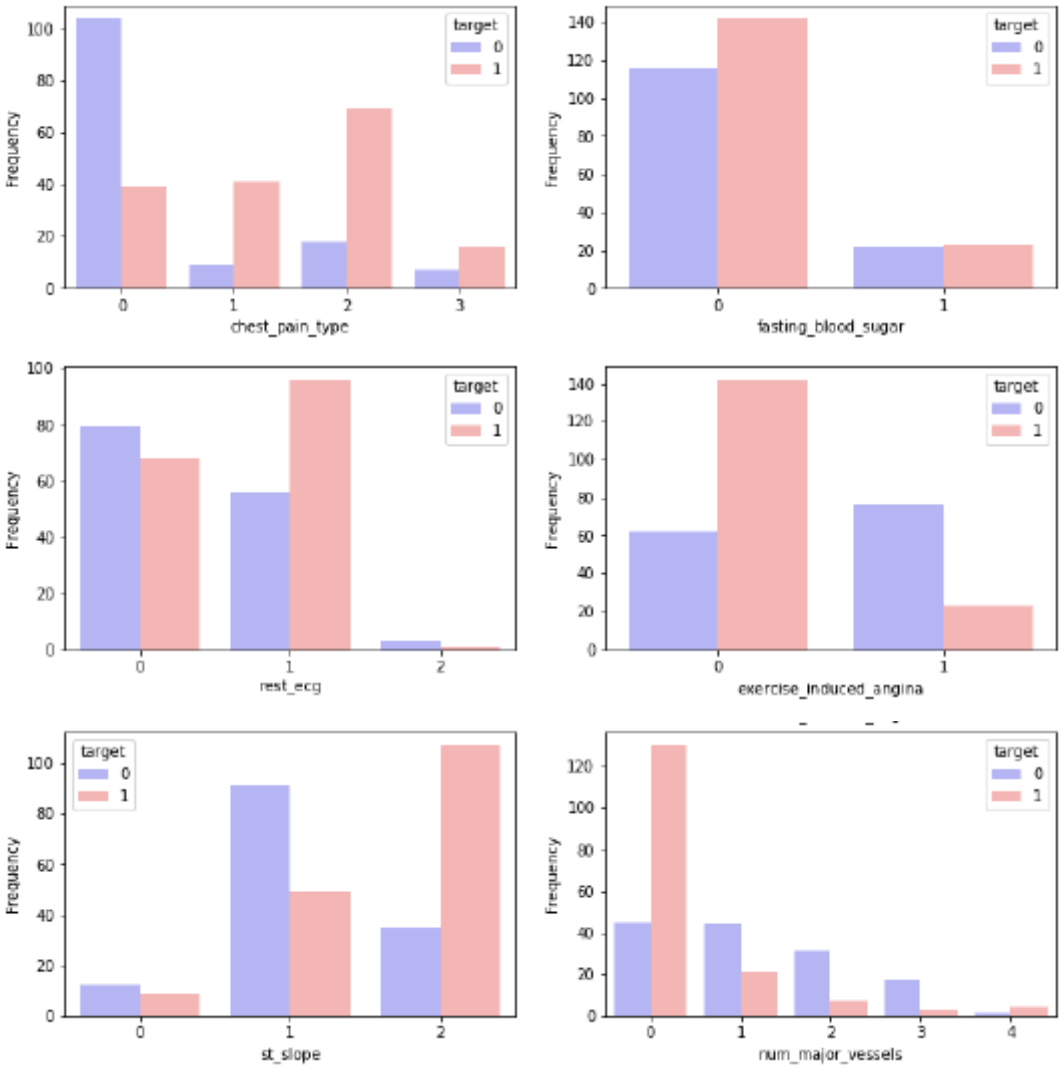

Target Class Count




Types of Chest Pain




Heart Disease Frequency for Ages




Frequency of Attributes

## # RandomForestClassifier

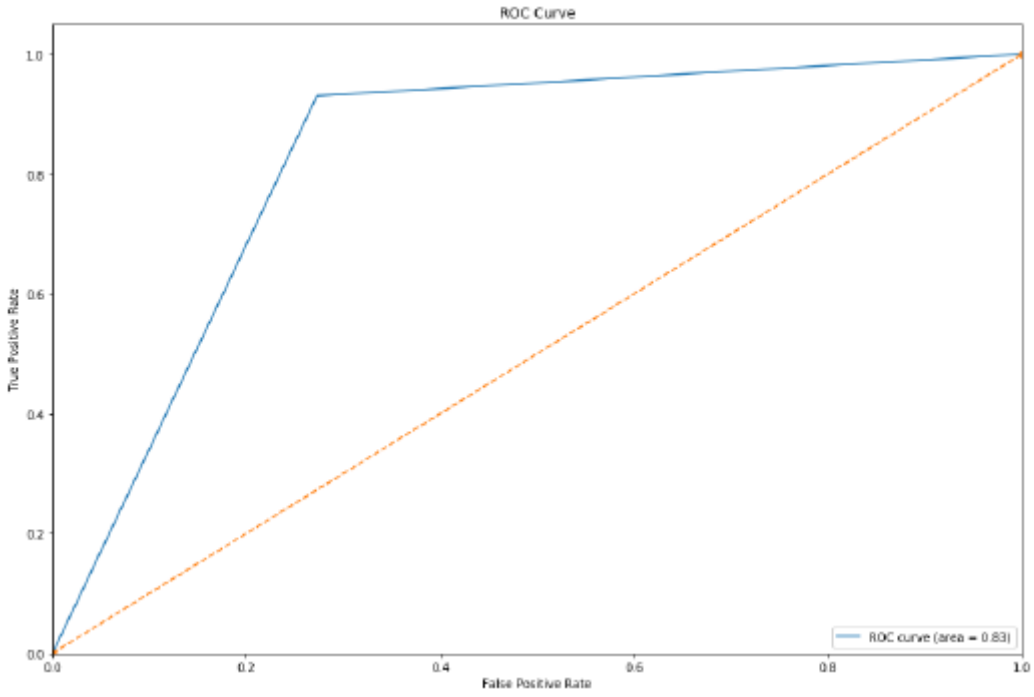
```
In [91]: from sklearn.ensemble import RandomForestClassifier

         Rf=RandomForestClassifier(max_depth=6,n_estimators=100)

In [92]: Rf.fit(x_train,y_train)

Out[92]: RandomForestClassifier(bootstrap=True, ccp_alpha=0.0, class_weight=None,
                                criterion='gini', max_depth=6, max_features='auto',
                                max_leaf_nodes=None, max_samples=None,
                                min_impurity_decrease=0.0, min_impurity_split=None,
                                min_samples_leaf=1, min_samples_split=2,
                                min_weight_fraction_leaf=0.0, n_estimators=100,
                                n_jobs=None, oob_score=False, random_state=None,
                                verbose=0, warm_start=False)

In [93]: Rf.score(x_train,y_train)

Out[93]: 1.0

In [94]: Rf.score(x_test,y_test)

Out[94]: 0.8421052631578947
```

```
In [100]: from sklearn.metrics import confusion_matrix, classification_report

          cm_df = pd.DataFrame(confusion_matrix(y_test, y_pred).T, index=RF.classes_,columns=RF.classes_)
          cm_df.index.name = 'Predicted'
          cm_df.columns.name = 'True'
          print(CM_df)
```

| True | 0 | 1 |
|---|---|---|
| Predicted | | |
| 0 | 24 | 3 |
| 1 | 9 | 40 |

```
In [101]: print(classification_report(y_test, y_pred))
```

| | precision | recall | f1-score | support |
|---|---|---|---|---|
| 0 | 0.89 | 0.73 | 0.80 | 33 |
| 1 | 0.82 | 0.93 | 0.87 | 43 |
| accuracy | | | 0.84 | 76 |
| macro avg | 0.85 | 0.83 | 0.83 | 76 |
| weighted avg | 0.85 | 0.84 | 0.84 | 76 |




Accuracy

**Title: Estimation of G+3 Building with the Floor Plan**

**Project Description:** An estimate is a computation of the quantities required and expenditure likely to be incurred the construction of a work. In any construction project, the probable cost of construction which is known beforehand is known as the estimated cost. And hence it is quite essential for the arrangement of financial resources for the completion of any construction project. In this project, the main aim was to find out the detailed estimate of quantities of all the structural aspect of G+3 building**.** The Sunway Opus Grand Neville is a result of a joint venture between Sunway City of Malaysia and Opus of Hyderabad, India. It also aims in finding out the probable cost, or the estimated cost of the project based on the computation of these quantities. The structural aspects considered for the estimation of quantities are earthwork in excavation and backfilling, concrete work in foundation and in R.C.C structures such as beams, columns, slabs, staircases etc., steel reinforcement in beams, columns and other R.C.C structures and brickwork in superstructure. The computation of quantities was carried out based on the drawings of various structural elements, such as the each floor plan, footings and columns layout, beams layout, staircases layout, footing specifications and column specifications, which have also been provided in this document. These details provide an idea for requirement of quantities for a particular project and also the likely expenditure which would be needed to be arranged .This documentation also provides the abstract of the estimated cost for the structural aspects.

The Sunway Opus Grand Neville is a result of a joint venture between Sunway City of Malaysia and Opus of Hyderabad, India. Sunway City is one-known of and well Malaysia's-diversified conglomerates, best with interests in property development, leisure, entertainment, hospitality, conventions, education and healthcare. Opus is a leading consortium of builders and property developers in Hyderabad, India. With a collective experience of over 100 years, Opus is a name that stands for solid expertise. The Grand Neville-Phase 2 is a one-of-a-kind project. A refreshingly new residential township spread across 9.4 acres of lush landscape and the first step into every construction: Giving to customer, an absolute choice to live in either single, duplex or three-floor villas- all of which , with are sizeable, corner space outside your villas front door.

52, 3- floor with the convenience of a lift Enhanced privacy –absolutely no shared walls anywhere Every villa is a corner villa Amazing natural ventilation of living spaces Safe, secure covered car park Resort style club house: Designed to cater to varied lifestyles and

deliver maximum utility, the Resort –style clubhouse at Neville has been specifically conceptualized in keeping with Indian ethos and values. A completely enclosed indoor swimming pool is to provide total privacy.

Student's calculations are based on precise measurements which gave them approximate and accurate values. The structural estimate had been prepared in detail such that the values can be used in the actual project being carried out. Also, the abstract of the estimated cost was prepared such that the current on going rate per unit of each item of work were considered. Hence the estimated costs of the structural requirements of the project are accurate too. Therefore, this project is not a rough, but fairly accurate in its results of both the estimated quantities as well as the estimated cost, and is quite useful for the ongoing project on which it is made.

| S.No. | Materiel | Test Description | Test Frequency | Test Conducted @ | Total no of test conducted | No of test Passed | No of test failed |
|---|---|---|---|---|---|---|---|
| **Concrete Cube Test** | | | | | | | |
| 1 | Concrete Cubes | Compressive strength test | As per frequency | Site Lab | 43 | 43 | 0 |
| **Aggregates** | | | | | | | |
| 2 | 20 mm Aggregate | Grading | weekly | Site Lab | 4 | 4 | 0 |
| 3 | 12 mm Aggregate | Grading | weekly | Site Lab | 4 | 4 | 0 |
| 4 | 20 mm Aggregate | Flakiness index | FORT NIGHTLY | Site Lab | 2 | 2 | 0 |
| 5 | 12 mm Aggregate | Flakiness index | FORT NIGHTLY | Site Lab | 2 | 2 | 0 |
| 6 | Aggregate Impact Value | Flakiness index | weekly | Site Lab | 4 | 4 | 0 |
| **Cement** | | | | | | | |
| 7 | Cement | Fineness of cement | SOURCE | External Lab | 0 | 0 | 0 |
| 8 | | Consistency, initial & Final setting time | SOURCE | External Lab | 0 | 0 | 0 |
| **Steel** | | | | | | | |
| 9 | Steel | Physical | Each Source | External Lab | 0 | 0 | 0 |
| 10 | Steel | Physical (Rolling Margin) | Each Lot/Dia | Internal Lab | 1 | 1 | 0 |

**Summary Of Lab Test Report –February 2020**

Project: Proposed 156 Units Villa Town Houses in Phase 3E, On Sy Nos. 154 & 155P, Ameenpur (Village & Pa
Patancheruvu (Mandal), Medak District, Hyderabad, Andhra Pr Date: 16.02.2018

Main Building Works - Schedule of Works for Payment

| Item | Description | Block E | Total Amount (Rs) | |
|---|---|---|---|---|
| Bill 1 | Sub Structure (Basement) | 10,519,198.66 | **10,519,198.66** | |
| Bill 2 | Super Structure | 10,525,334.44 | **10,525,334.44** | |
| Bill 3 | Masonry | 2,964,503.19 | **2,964,503.19** | |
| Bill 4 | Plastering | 2,930,971.37 | **2,930,971.37** | |
| Bill 5 | Door Frame, Shutter & Lockset | 1,327,970.24 | **1,327,970.24** | |
| Bill 6 | Aluminium Windows & Sliding Doors | 3,745,982.72 | **3,745,982.72** | |
| Bill 7 | Roof Structure & Finishes | 345,943.20 | **345,943.20** | |
| Bill 8 | Floor & Wall Finishes | 6,062,928.05 | **33,734,072.00** | |
| Bill 9 | Railing | 724,000.00 | 724,000.00 | |
| Bill 10 | Water proofing Works | 659,778.20 | **659,778.20** | |
| Bill 11 | Sanitary Fitting, Internal water supply and sanitary piping | 1,360,931.32 | 1,360,931.32 | |
| Bill 12 | Internal MEP | 2,193,050.20 | **2,193,050.20** | |
| Bill 13 | External MEP | N/A | **19,558,671.00** | |
| Bill 14 | Infra Works | N/A | **9,092,952.49** | 99,683,359.03 |
| Bill 15 | Affiliate Building Works | N/A | | |
| Bill 16 | Provisional Sum | N/A | **11,400,000.00** | |
| | TOTAL CONSTRUCTION COST (Rs) | 43,360,591.59 | **270,095,400.00** | |

Final Summary

**Title: Accident Prediction Model**

**Project Description:** In recent years, the road accident has become a global problem and marked as the ninth prominent cause of death in the world. Due to the enormous number of road accidents every year, it has become a major problem in India. It is entirely inadmissible and saddening to allow its citizen to kill by road accidents. Consequently, to handle this overwhelmed situation, a precise analysis is required. This research paper has been done to analyze traffic accidents more deeply to determine the intensity of accidents and to analyze the relationship between the number of road traffic accidents and road length, traffic conditions and other factors. Taking the number of road traffic accidents subject to Poisson regression, negative binomial (NB) regression and Zero Inflated Negative Binomial (NINB)

regression as response variables, we construct a generalized linear model by introducing a joint function. We construct the Traffic Accident Prediction Model Based on Random Forest (RF) Regression. The defect models are compared, and based on the predictive model, selecting the significant factors and determining the degree of influence factors of road traffic accidents, reducing the number of traffic accidents and improving the overall security of the road. A traffic collision, also called a motor vehicle collision (MVC) among other terms, occurs when a vehicle collides with another vehicle, pedestrian, animal, road debris, or other stationary obstruction, such as a tree, pole or building. Traffic collisions often result in injury, death, and property damage.

A number of factors contribute to the risk of collision, including vehicle design, speed of operation, road design, road environment, and driver skill, impairment due to alcohol or drugs, and behavior, notably speeding and street racing. Worldwide, motor vehicle collisions lead to death and disability as well as financial costs to both society and the individuals involved.

The main objective of the project is to completely study the traffic, accidents, causes of accidents and the reason for the accident and hence make a suitable mathematical model using regression method between the time and accident and hence we shall predict the accidents in the future and make sure we prevent the accidents by suitable preventive measures.

In this project we are selecting the area in the city Vijayawada because it is a new capital city and hence it is important for us to study the traffic and accidents such that we can prevent the accidents in the future.

Accident Prediction Model is developed using Multiple Linear Regression Analysis for this part of roads is based on the factors influencing road accidents. The dependent variable using in the model is Number of Accidents(Y). The independent variables used in the model are:

1. Injuries(X1)
2. Deaths(X2)
3. Two Wheelers(X3)
4. Cars(X4)

The model development in the research using the above variables is:

$$Y_g=a_0+a_1X_1^2+a_2X_2^2+a_3X_3^2+a_4X_4^2$$

The Coefficient of Determination (R2) obtained is 0.62025.

Accident data from different police station suggests that there is a lack of proper enforcement and education to roadway safety. This weakness can be minimized through comprehensive corrective measures. Local community initiatives to improve the conditions are very sparse. Importantly, such efforts would require considerable resources particularly trained local personnel, safety specialists and researchers so as to build up indigenous capacity and attain sustainable safety program.

It is suggested to further refine the model reported in this study using more number if variables to get a more realistic picture in the predicting or fore casting accidents, though accidents occurrence is random phenomenon and therefore we cannot exactly predict future trends by using any model or theory, but it is a very handy tool in the hands of planners and decision makers to take remedial measures in advance by studying future trends using such models, to take mitigation measures to minimize the accident rate to certain extent and to take other safety measures.

| Y | $Y_g$ | SSR | SSE |
|---|---|---|---|
| 46 | 4.460462 | 92.92069981 | 133.1609456 |
| 44 | 25.56121 | 131.35953 | 73.294330307 |
| 24 | 18.06479 | 15. 719523768 | 101.2999417 |
| 48 | 5.688706 | 70.74986064 | 53.45501455 |
| 51 | 5.054613 | 81.81902085 | 24.45684977 |
| 40 | 1.683114 | 154.1790627 | 86.80436832 |
| 38 | 0.373439 | 188.4184769 | 58.1644327 |
| 28 | 18.47593 | 19.1487294 | 2.17835791 |
| 28 | 31.60012 | 306.254575 | 134.5628221 |
| 31 | 30.03762 | 254.0077352 | 81.67857747 |
| 25 | 17.55656 | 17.45665 | 6.216465 |
| 33 | 31.1654 | 8.54651 | 65.4684 |

Y = No of Accidents Occurred
$Y_g$ = Generated Accidents
SSR = Sum of Squares of Regression
SSE = Sum of Squares of Error
SST = Total Sum of Squares

SSR = 1340.579894
SSE = 820.740505
SST = SSR + SSE = 2161.320399
$R^2$ = Co-efficient of Determination = SSR/SST = 0.62025

**Title: Mix Design of Concrete using Partially Replacement of Sand with Robo Sand**

**Project Description:** Common river sand is expensive due to excessive cost of transportation from natural sources. Also large scale depletion of these sources creates environmental problems. as environmental transportation and other constraints make the availability and use of river sand less attractive, a substitute or a replacement product for concrete industry needs to be found. River sand most commonly used fine aggregate in the production of concrete poses the problem of acute shortage in many areas. Whose continued use has stared posing serious problems with respect to its availability, cost and environmental impact. In such a situation robo sand can be economical alternative to the river sand. The robo sand is the by- product which is formed in the processing of the granite stones which broken downs into the coarse aggregates of different sizes. mix design has been developed for both conventional concrete and robo sand concrete. Tests were conducted on cubes for the cylinders to study the strength of concrete made of robo sand.

Concrete is the most popular building material in the world. However, the production of cement has diminished the limestone reserves in the world and requires a great consumption of energy.

Nevertheless, fly ash causes an increase in workability of concrete. Robo sand has been proposed as an alternative to river sand that gives additional benefit to concrete. Robo sand is known to increase the strength of concrete over concrete made with equal quantities of river sand, but it causes a reduction in the workability of concrete. When examining the above qualities of fly ash and robo sand it becomes apparent that if both are used together, the loss in early strength due to one may be alleviated by the gain in strength due to the other, and the loss of workability due to the one may be partially negated by the improvement in workability caused by the inclusion of the other.

**Effect of compressive strength:**

Tables shows the results of compressive strength values for 7,14,28days for robo sand as a replacement of sand of proportions 0 %,10%,20%,40%. Finally from the results the compressive strength is increasing from 0 to 40 percent and then decreasing up to 100 percent with reference to conventional concrete.

**Effects of split tensile strength**

From Tables the split tensile strength values of robo sand used as fine aggregate are increased while compared to sand for 7 days,14 days, & 28 days. also replacement of sand proportions is

0%,10%,20%,40%. Finally from the results the split tensile strength of concrete is decreasing when compared to conventional concrete.

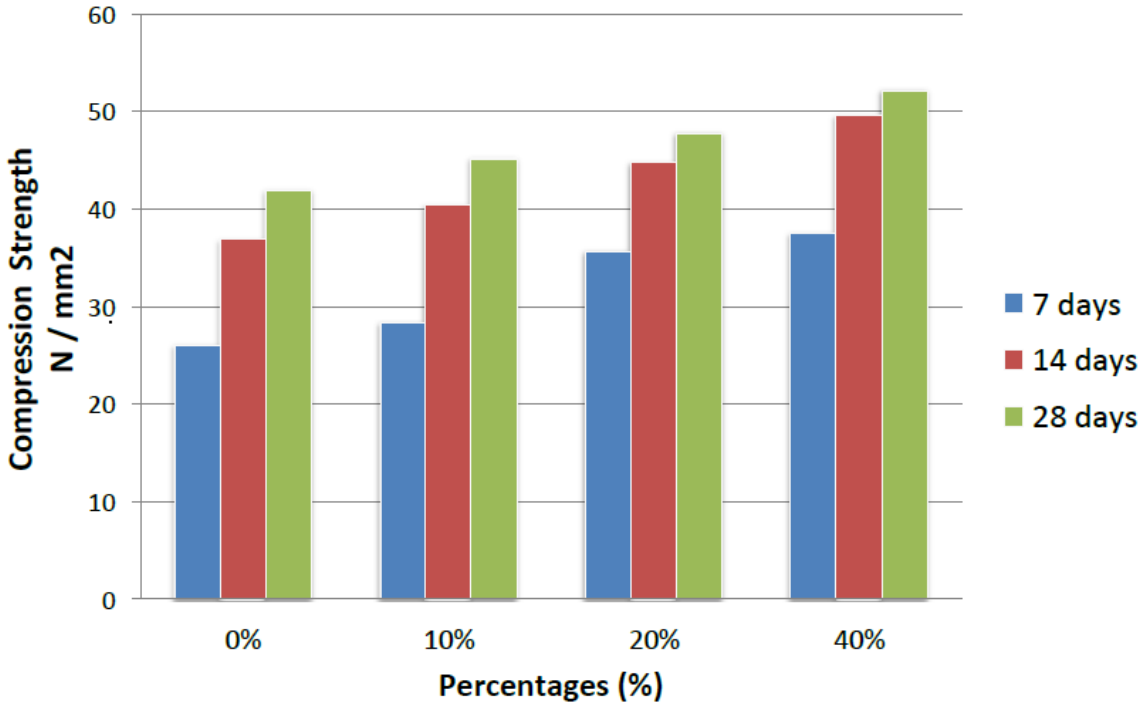
Based on results obtained, the conclusions are

1. The replacement of sand as has been done up to 40 percent as a fine aggregate in concrete by using robo sand.
2. The results have been highly encouraging in the case of concrete with natural sand and its replacement with robo sand up to 40 percent.
3. Coming to workability it is observed that workability is increasing when compared to conventional concrete.
4. A compressive strength result there is a nominal increase in the robo sand concrete up to 40 percent replacement.
5. From the split tensile strength results there is a nominal increase in the robo sand concrete with reference to conventional concrete at 28 days.
6. This indicates that robo sand can be replaced for fine aggregate without any correction while designing the concrete mix.

**M40 grade observations**

| No. of days | 0% | 10% | 20% | 40% |
|---|---|---|---|---|
| 7 | 26 | 28.333 | 35.667 | 37.444 |
| 14 | 36.888 | 40.444 | 44.83 | 49.666 |
| 28 | 41.88 | 45.111 | 47.333 | 52.111 |

Compression testing values (cubes)

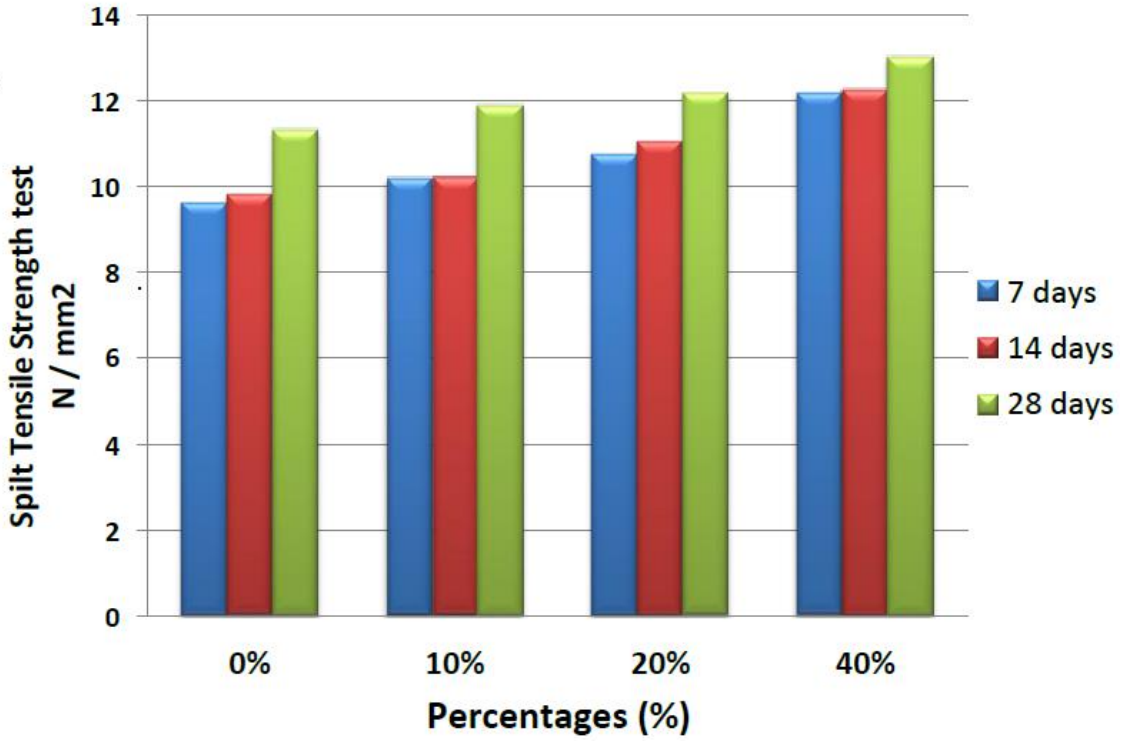



Graph representation of compression test (cubes)

**M40 grade observations**

| No of days | 0% | 10% | 20% | 40% |
|---|---|---|---|---|
| 7 | 9.6200 | 10.1859 | 10.751 | 12.166 |
| 14 | 10.050 | 10.186 | 11.034 | 12.166 |
| 28 | 11.317 | 11.883 | 12.166 | 13.01 |

Split tensile test values (cylinders)

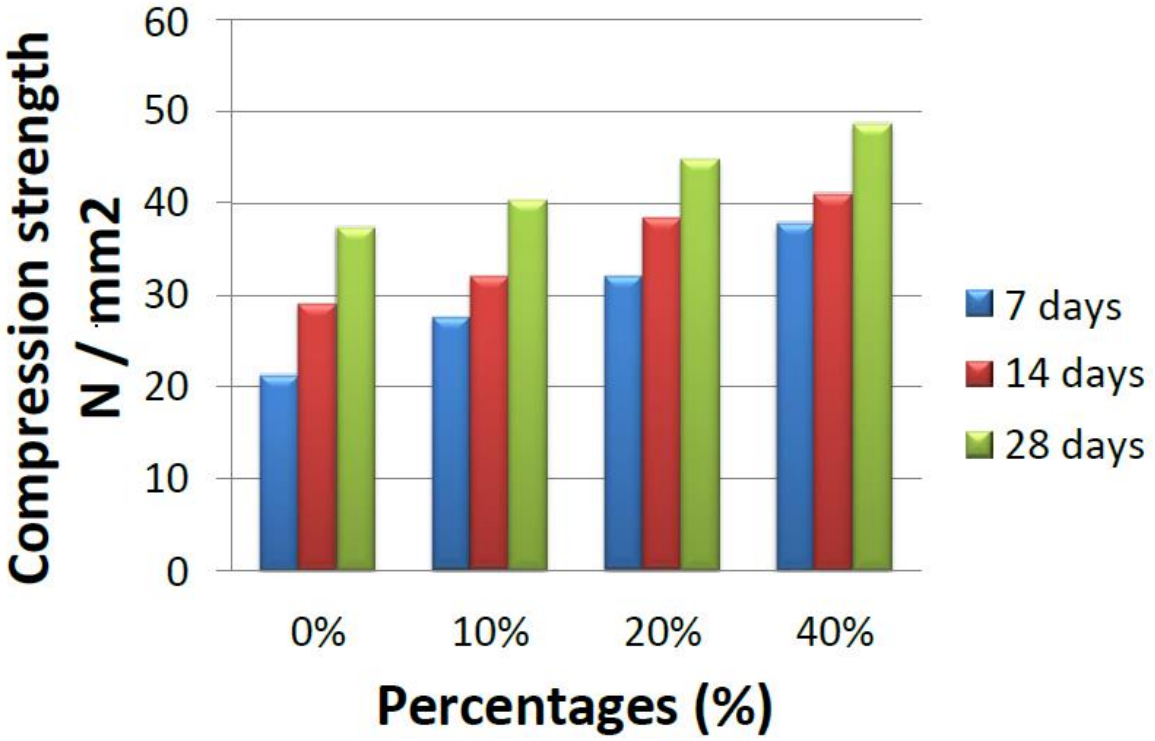



Graph representation of split tensile test (cylinders)

**M30 grade observations**

| No of days | 0% | 10% | 20% | 40% |
|---|---|---|---|---|
| 7 | 21.222 | 27.555 | 30.32 | 35.778 |
| 14 | 29 | 32 | 38.333 | 41 |
| 28 | 37.32 | 40.333 | 44.778 | 48.667 |

**COMPRESSION TEST (CUBES)**

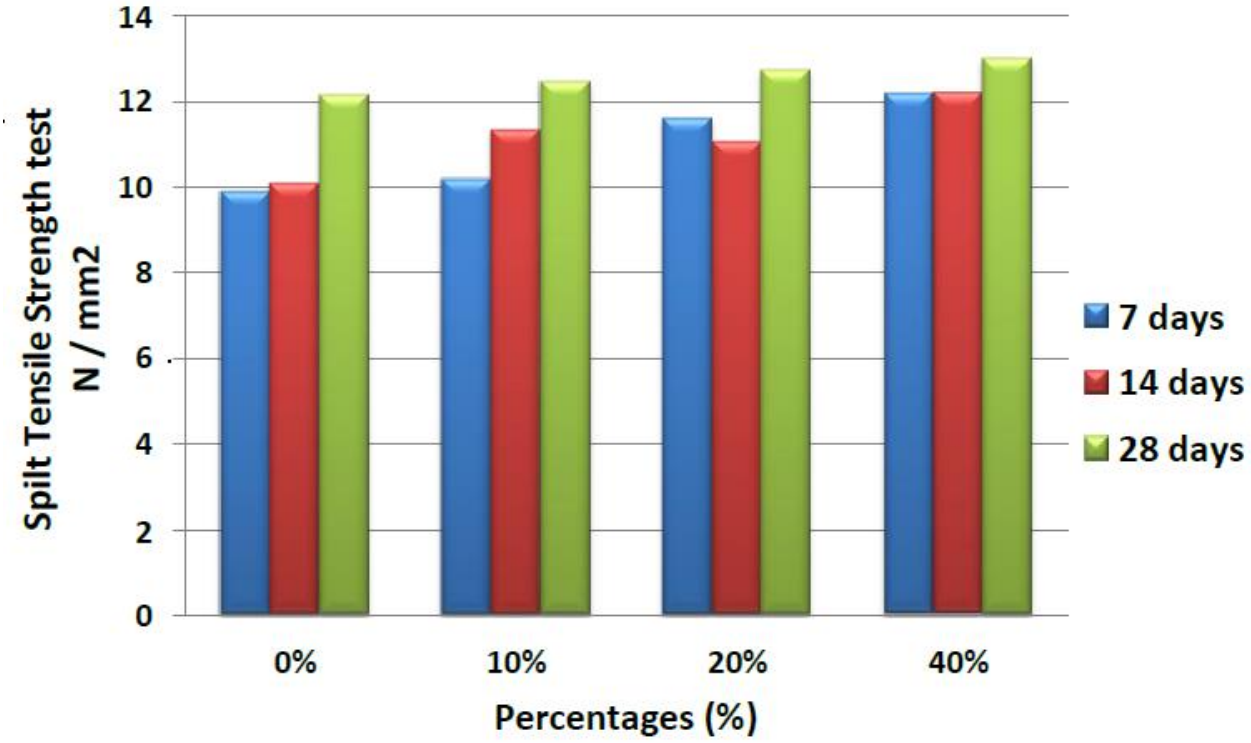



**Graph representation of compression test (cubes)**

**M30 grade observations**

| No of days | 0% | 10% | 20% | 40% |
|---|---|---|---|---|
| 7 | 9.903 | 10.186 | 11.600 | 12.166 |
| 14 | 10.67 | 11.317 | 11.03 | 12.167 |
| 28 | 12.166 | 12.449 | 12.732 | 13.01 |

**SPLIT TENSILE TEST (CYLINDERS)**




**Graph representation of split tensile test**

**"Fusion of "Learner-centric" Pedagogy to achieve Course Outcomes"**

Learner-Centered Pedagogy is a focused classroom environment to one that is focused on the needs of the students. Learning is an active search for meaning by the learner and constructed rather than passively received.

In a learner-centered teaching environment, learners are

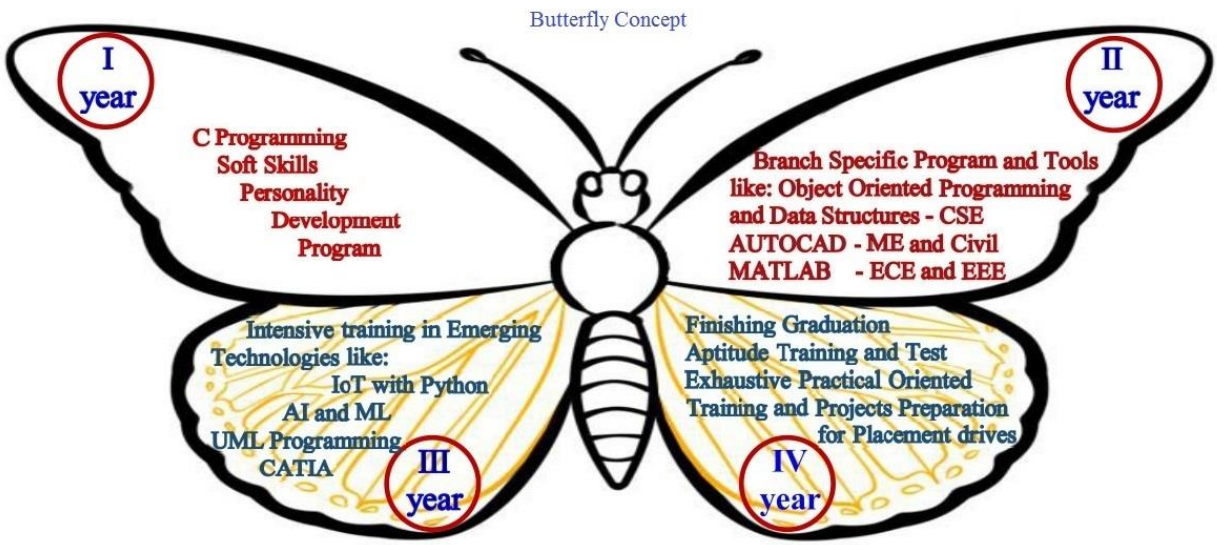
- Actively participate in their own learning
- Make decisions about what and how they will learn
- Become capable of constructing new knowledge and skills by building on past experiences

In a learner-centered teaching environment, teachers are

- Recognize that all learners are unique and utilize different teaching styles
- Provide structure and direction
- Facilitate learner's decision-making process

KPRIT is organizing special module for different groups based on students program of study. They are categorized as per their entry level and modules are offered for students. e.g. first year students will study soft skill programming skill and C programming. From second year onwards, modules are taken as per specialization requirement of particular discipline. In the last year, students are trained in such a way that they become ready to serve the industry.

SEED Time table is also prepared for all the students which will take these modules regularly.



# KOMMURI PRATAP REDDY INSTITUTE OF TECHNOLOGY

## SEED Time-Table

### Kommuri Pratap Reddy Institute of Technology
**Student Empowerment & Entrepreneurship Development**
**TIME TABLE**

AY/Semester: 2017-18 /I — W.E.F- 12-07-2017

| | I 9:30-10:20 | II 10:20-11:10 | III 11:20-12:10 | IV 12:10-01:00 | 01:00-01:30 | V 01:30-02:20 | VI 2:20-3:10 | VII 03:10-04:00 |
|---|---|---|---|---|---|---|---|---|
| MON | C Programming - I | | C Programming - II | | LUNCH | | C Programming - III | |
| TUE | | | | | | | | |
| WED | C Programming - I | | C Programming - II | | | | C Programming - III | |
| THU | | | | | | | | |
| FRI | | | | | | | | |
| SAT | PDP/SST-I | | PDP/SST-II | | | | PDP/SST-III | |

T&P Coordinator
Training and Placement Officer
Kommuri Pratap Reddy institute of Technology
Ghanpur(V),Ghatkesar (M),Medchal (D) TS

Time Table Coordinator

Principal
Kommuri Pratap Reddy Inst.of Tech.
Ghanpur(V), Ghatkesar(M), R.R.Dist.
Hyderabad-500088

### Kommuri Pratap Reddy Institute of Technology
**Student Empowerment & Entrepreneurship Development**
**TIME TABLE**

AY/Semester: 2017-18 /II — W.E.F- 14-12-2017

| | I 9:30-10:20 | II 10:20-11:10 | III 11:20-12:10 | IV 12:10-01:00 | 01:00-01:30 | V 01:30-02:20 | VI 2:20-3:10 | VII 03:10-04:00 |
|---|---|---|---|---|---|---|---|---|
| MON | C++ & DS-I | | C++ & DS-II | | LUNCH | | C++ & DS-III | |
| TUE | | | | | | | | |
| WED | C++ & DS-I | | C++ & DS-II | | | | C++ & DS-III | |
| THU | | | | | | | | |
| FRI | | | | | | | | |
| SAT | PDP/SST-I | | PDP/SST-II | | | | PDP/SST-III | |

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# KOMMURI PRATAP REDDY INSTITUTE OF TECHNOLOGY

## KOMMURI PRATAP REDDY INSTITUTE OF TECHNOLOGY

Ghanpur (V), Ghatkesar (M), Ranga Reddy Dist.

### DEPARTMENT OF SEED-2018-19 I - SEM

| | 1st Years | | | 2nd Years | | | 3rd Years | | | For Final Years | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DAY | 1st | 2nd | 1: | 3rd | 4th | 00- | 5th | 6th | 7th | 5th | 6th | 7th |
| TIME | 9:30-10:20 | 10:20-11:10 | 1 | 11:20-12:10 | 12:10-1:00 | 1: | 1:40-2:30 | 2:30-3:20 | 3:20-4:10 | 1:40-2:30 | 2:30-3:20 | 3:20-4:10 |
| MONDAY | CSE/EEE - I year - I sem - "C" (Gabrial), ECE - "C" (Stephen), Mech / Civil - "C" (Avinash) | | | CSE - II year - I sem - "DS & C++" (Gabrial), ECE - "DS & C++" (Stephen), Mech & CIVIL - CAD (Clintwood), EEE - Embedded C(Surya Prakash) | | | | CSE - III year - I sem - "SQL" (Gabrial), ECE - "SQL" (Stephen), Mech & CIVIL - CAD (Clintwood), EEE - Embedded C(Surya Prakash) | | Aptitude/ Mock | | |
| TUESDAY | | | | | | | | CSE/EEE/ECE/MECh/CIVIL - III year - I sem - Aptitude (Ashok Reddy) | | CSE & ECE - JAVA, Mech - Hypermesh, Civil - GIS, EEE - Mat Lab | | |
| WEDNESDAY | CSE/EEE - I year - I sem - "C" (Gabrial), ECE - "C" (Stephen), Mech / Civil - "C" (Avinash) | | BREAK | CSE - II year - I sem - "DS & C++" (Gabrial), ECE - "DS & C++" (Stephen), Mech & CIVIL - CAD (Clintwood), EEE - Embedded C(Surya Prakash) | | LUNCH | | CSE - III year - I sem - "SQL" (Gabrial), ECE - "SQL" (Stephen), Mech & CIVIL - CAD (Clintwood), EEE - Embedded C(Surya Prakash) | | CSE & ECE - JAVA, Mech - Hypermesh, Civil - GIS, EEE - Mat Lab | | |
| THURSDAY | | | | | | | | | | CSE & ECE - JAVA, Mech - Hypermesh, Civil - GIS, EEE - Mat Lab | | |
| FRIDAY | | | | | | | | | | | | |
| SATURDAY | CSE/EEE/CIVIL - I year - I sem - PDP / SST (Prathima), ECE & Mech - PDP / SST (Niky ), | | | CSE/EEE/CIVIL - II year - I sem - PDP / SST (Prathima), ECE & Mech - PDP / SST (Niky ), | | | | | | | | |

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## KOMMURI PRATAP REDDY INSTITUTE OF TECHNOLOGY

Ghanpur (V), Ghatkesar (M), Ranga Reddy Dist.

### DEPARTMENT OF SEED-2018-19 II - SEM

| year | Ist year | | | II nd Year | III year | | IV year | |
|---|---|---|---|---|---|---|---|---|
| Hour | 1st-2nd | 4th &5th | 6th&7th | 3rd &4th | 2 ndto 4th | 6th & 7th | 2nd,3rd &4th | 5th,6th &7th |
| Time | 9:30-11:10 | 12:40-2:10 | 2:10-4:00 | 11:20 to 1:100 | 10:20 to 1:00 | 2:30 to 4:10 | 10:20 to 1:00 | 1:40 to 4:10 |
| MON DAY | C++&DS (CSE&EEE) | C++&DS (CE&MECH) | C++&DS (ECE) | SQL(CSE), SAPABAP(EEE&MECH), EMBEDDEC(ECE), STAAD.PRO(CE2nd&3rd year) | | EMBEDDEC(ECE), MATLAB(EEE), CATIA(MECH),PYTHON(CSE), | | Adv.Java(CSE), IOT with Python (ECE&EEE), Revits(CE), Unigraphics(Mech) |
| TUES DAY | | | | | | | | Adv.Java(CSE), IOT with Python (ECE&EEE), Revits(CE), Unigraphics(Mech) |
| WED DAY | C++&DS (CSE&EEE) | C++&DS (CE&MECH) | C++&DS (ECE) | SQL(CSE), SAPABAP(EEE&MECH), EMBEDDEC(ECE), STAAD.PRO(CE) | | EMBEDDEC(ECE), MATLAB(EEE), CATIA(MECH),PYTHON(CSE), | | Adv.Java(CSE), Revits(CE), Unigraphics(Mech) |
| THUS DAY | | | | | | | | Mock Test INTERNEL |
| FRI DAY | | | | | | | | |
| SAT DAY | PDP/SST | | | PDP/SST | | APPTITUDE | | |

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# KOMMURI PRATAP REDDY INSTITUTE OF TECHNOLOGY

## KOMMURI PRATAP REDDY INSTITUTE OF TECHNOLOGY

Ghanpur (V), Ghatkesar (M), Ranga Reddy Dist.

**DEPARTMENT OF SEED-2019-20 I - SEM**

| | 1st Year | | | | | 2nd Years | | | | 3rd Years | | | | | | | 4th Year | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DAY | 1st | 2nd | 3rd | 4th | 5&6th | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 2nd | 3rd | 4th | 5th | 6th | 7th |
| TIME | 9:30-10:20 | 10:20-11:10 | 11:10-12:00 | 12:40-1:30 | 1:30 to 3:10 | 9:30-10:20. | 10:20-11:10 | 11:20-12:10 | 12:10-1:00 | 9:30-10:20 | 10:20-11:10 | 11:20-12:10 | 12:10-1:00 | 1:40-2:30 | 2:30-3:20 | 3:20-4:10 | 10:20-11:10 | 11:20-12:10 | 12:10-1:00 | 1:40-2:30 | 2:30-3:20 | 3:20-4:10 |
| MONDAY | | | | | | AutoCAD(ME), Embedded C(EEE), SQL(CSE) | | Embedded C(ECE), | | Embedded C(EEE) | | Solid Works(ME), Python(CSE) | | | MatLAB(ECE) | | MatLAB(EEE) | | | Ansys(ME), Cadence(ECE), JAVA(CSE) | |
| TUESDAY | | | | | | AutoCAD(ME), Embedded C(EEE), SQL(CSE) | | Embedded C(ECE), | | Embedded C(EEE) | | Solid Works(ME), Python(CSE), AutoCAD(CIVIL) | | | MatLAB(ECE) | | MatLAB(EEE) | | | Ansys(ME), Cadence(ECE), JAVA(CSE) | |
| WEDNESDAY | C Programming | | C Programming | | | | | | | | | | | AutoCAD(CIVIL) | | | Etabs(CIVIL) | | | | | |
| THURSDAY | C Programming | | C Programming | | | | | | | | | | | | | | Etabs(CIVIL) | | | | | |
| FRIDAY | | | | | | AutoCAD(CIVIL) | | | | | | | | AutoCAD(CIVIL) | | | | | | | | |
| SATURDAY | | | | | PDP /SST (All Branche | PDP/SST (All Branches) | | | | | | | | | Aptitude &Reasoning | | Mock Interview (All Branches) | | | | | |

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## KOMMURI PRATAP REDDY INSTITUTE OF TECHNOLOGY

Ghanpur (V), Ghatkesar (M), Ranga Reddy Dist.

**DEPARTMENT OF SEED-2019-20 II - SEM**

| | 2nd Years | | | | | | 3rd Years | | | | | | | 4th Year | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DAY | 1st | 2nd | 3rd | 4th | 5th | 6th | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 2nd | 3rd | 4th | 5th | 6th | 7th |
| TIME | 9:30-10:20 | 10:20-11:10 | 11:20-12:10 | 12:10-1:00 | 1:40-2:30 | 2:30-3:20 | 9:30-10:20 | 10:20-11:10 | 11:20-12:10 | 12:10-1:00 | 1:40-2:30 | 2:30-3:20 | 3:20-4:10 | 10:20-11:10 | 11:20-12:10 | 12:10-1:00 | 1:40-2:30 | 2:30-3:20 | 3:20-4:10 |
| MONDAY | ME(SOLIDWORKS ),ECE(MATLAB), CSE(C++&DS) | | EEE(MATLAB) | | | | EEE(IOT WITH PYTHON) | | ME(CATIA), ECE(IOT WTH PYTHON), CSE(UML TOOL&PYTHON DJANGO) | | | | | EEE(IOT WITH PYTHON) | | | ME(ANSYS), ECE(IOT WITH PYTHON), CSE(UML TOOL&PYTHON DJANGO) | | |
| TUESDAY | ME(SOLIDWORKS ),ECE(MATLAB), CSE(C++&DS) | | EEE(MATLAB) | | | | EEE(IOT WITH PYTHON) | | ME(CATIA), ECE(IOT WTH PYTHON), CSE(UML TOOL&PYTHON DJANGO) | | | | | EEE(IOT WITH PYTHON) | | | ME(ANSYS), ECE(IOT WITH PYTHON), CSE(UML TOOL&PYTHON DJANGO) | | |
| WEDNESDAY | | | | | | | ECE/CSE-(APTITUDE) | | EEE/CE/ME - (APTITUDE) | | | | | | | | APTITUDE-ALL IV YEARS | | |
| THURSDAY | CE-AUTOCAD | | | | | | | | CE-AUTOCAD | | | | | | | | CE-(STAD PRO) | | |
| FRIDAY | CE-AUTOCAD | | | | | | | | CE-AUTOCAD | | | | | | | | CE-(STAD PRO) | | |
| SATURDAY | CE-(PDP/SST) | | EEE/ME-(PDP/SST) | | CSE/ECE-(PDP/SST) | | | | | | | | | | | | | | |

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Medchal-Malkajgiri Dist.-501301 T.S.

# KOMMURI PRATAP REDDY INSTITUTE OF TECHNOLOGY

## Profile of Trainer and Contents

### MATLAB/SIMULINK

**Academic Year:** 2018-19

**Year & Semester:** IV year I Sem

**Name of the program:** B.Tech.

**Course / Subject:** MATLAB/SIMULINK

**Name of the Faculty:** Dr. V. Rajagopal **Dept.: EEE**

**Vision of the Department:**
To impart innovative technical education with global standards, thereby nurturing our Electrical and Electronics Engineering students technologically prominent and ethically strong to meet the challenges of serving the society.

**Mission of the Department:**
To provide state of the art infrastructure to impart quality education in Electrical and Electronics Engineering. To shape the young minds of the students with the fundamental knowledge, inter-disciplinary problem solving skills, analytical skills and confidence required to excel in their profession.

**Pre-requisites:** Theoretical knowledge on analysis of electric circuits and power electronic circuits'. It is intended to assist under graduates in learning the basics of programming MATLAB in particular and also implementation of electric and power electronic circuits through simulink/simpower systems tool boxes.

**Course Description:** This course provides a gentle introduction to MATLAB. It is designed to give students fluency in MATLAB, including popular toolboxes necessary for electrical engineering. Certification will be provided after successful completion of this course.

**Course Objectives:**

On completion of this course the student shall be able to

- To familiarize the students in introducing and exploring MATLAB & Simulink software.
- To enable the student on how to approach for solving engineering problems using simulation tools.
- To prepare the students to use MATLAB/SIMULINK in their project work.
- To provide a foundation in use of this software for real time applications.
- To get placed in any designing related company/Industry.

**Course Outcomes:**

The expected outcomes are

- Ability to express programming and simulation for engineering problems.
- Articulate importance of software's in research by simulation work.
- Ability to design and simulate basic electrical and power electronic circuits in simulink and apply these in practical applications.
- Ability to apply power electronic controllers in DC and AC drives.
- On successful completion of this course, certificates will be awarded to each student.

## SYLLABUS:

### Unit – I: INTRODUCTION

Introduction to MATLAB, Creating variables, some MATLAB useful functions, Matrices, arithmetic operations, plots, generation of waveforms, basic operations on signals and sequences, locating poles and zeros, designing of RLC circuits, network theorems, generation of gate signals.

| S.no. | Simulations & Programs |
|---|---|
| 1. | Program on basic arithmetic operations, generation and operation of signals |
| 2. | Simulation of series and parallel RLC Circuits |
| 3. | Simulation and analysis of network theorems. |

### Unit – II: RECTIFIERS & PWM INVERTERS

Simulation of Single phase half wave uncontrolled rectifier, semi-converter, controlled bridge rectifiers with R, RL, RLE load, three phase converters with various loads.

Simulation of single phase voltage source inverter, three phase voltage source inverter, analysis of performance parameters, Output voltage control and harmonic neutralization: designing and simulation of various PWM techniques, Multi-level inverters: designing and simulation of five level diode clamped, flying capacitor and cascaded H-bridge MLI.

| S.no. | Simulations |
|---|---|
| 1. | Single phase half wave uncontrolled rectifier with R, RL load. |
| 2. | Single phase semi-converter with R, RL and RLE Load. |
| 3. | Single phase fully controlled bridge rectifier with R, RL and RLE load. |
| 4. | Three phase bridge rectifier with R, RL and RLE loads. |
| 5. | Single phase and three phase voltage source inverter |
| 6. | Simulation of five level dioded clamped MLI |
| 7. | Simulation of five level flying capacitor |
| 8. | Simulation of five level cascaded H-bridge MLI. |

### Unit- III: DC-DC & AC-AC CONVERTERS

Simulation of step-up, step down and buck boosts converters with various loads, simulation and analysis of single phase and three phase cycloconverters with various loads.

| S.no. | Simulations |
|---|---|
| 1. | Step up DC-DC converter with various loads. |
| 2. | Step down DC-DC converter with various loads. |
| 3. | Buck-Boost DC-DC converter with various loads. |
| 4. | Single phase cycloconverter with various loads. |
| 5. | Three Phase cycloconverter with various loads. |

### UNIT- IV: DC & AC DRIVES

Speed control of DC shunt motor using single phase full wave converter and three phase full wave full wave converter, chopper controlled DC motor, Designing of various controllers, closed loop control of DC drives, speed control of three phase induction motor using inverter and cycloconverter.

| S.no. | Simulations |
|---|---|
| 1. | Modeling of Induction Motor. |
| 2. | Speed control of DC shunt motor using single phase full wave converter. |
| 3. | Speed control of DC shunt motor using Three phase full wave converter. |
| 4. | Speed control of DC shunt motor using DC-DC converter. |
| 5. | Designing of P, PI and PID controllers |
| 6. | Closed loop control of DC drives |
| 7. | Speed control of three phase induction motor using inverter |

**UNIT-V: PHOTOVOLTAIC and WECS**

Designing/ mathematical modeling of PV arrays and extracting V-I characteristics, Modeling and simulation of various power converters for PV fed applications, designing of wind energy conversion system in Simulink platform.

| S.no. | Simulations |
|---|---|
| 1. | Mathematical modeling of PV array and Exctracting I-V & P-V curves. |
| 2. | Modeling and simulation of various power converters for PV fed applications |
| 3. | Designing of wind energy conversion system. |

**References:**


1. Rashid .M. H, "Power Electronics Hand book", Academic press, Second edition, 2006.
2. Bimal.K. Bose, "Power Electronics and Variable frequency drives", Standard Publishers Distributors, New Delhi, 2000.
3. Dubey G.K., "Power Semiconductor controlled drives", Prentice Hall inc, A division of Simon and Schester England cliffs, New Jersey, 1989.
4. Krishnan R., "Electric motor drives- modeling, analysis and control", PrenticeHall of India Pvt. Ltd., New Delhi, 2007.
5. Ned Mohan,Undeland and Robbin, "Power Electronics: converters, Application and design" John Wiley and sons.Inc,Newyork, Reprint 2009
6. www.Mathworks,com/Matlab-2012b,2013a/Simulnik.


**ASSESSMENT TOOLS:**

1. End – Course Examination (MOODLE TEST).
2. Viva-Voce.

**G.SHARATH CHANDRA REDDY**

**+91 9642090931**

g.sharathreddy05@gmail.com

(electricaldesign engineer with 6.1 years of experience)

Qualification; B.tech from MAHAVEER INSTITUTE OF SCIENCE & TECHNOLOGY,

EPC in **ELECTRICAL DESIGN ENGINEERING&SOLAR POWER SYSTEM DESIGN ENGINEERING** from

SMART BRAINS INSTITUTE OF OIL AND ENERGY, NOIDA, DELHI.

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Synopsis

- 6.1Years of Experience in **MATLAB &Mi-Power**Software Analysis, Planning, Design, Development, and Simulation.
- Good Experience on Model Based Development using MATLAB/Simulink/State flow.
- Developing projects according to the modules and client requirements using MATLAB environment
- Experienced in Re-architecture and variant handling of Simulink models.
- Good Experience in Development of M-Scripts to Automate Matlab models.
- Successful track record in accomplishing assigned projects.
- Excellent time management skills with proven ability to work accurately and quickly prioritize coordinate and consolidate tasks.
- Developing projects of IEEE and Non-IEEE standards using MATLAB/Simulink software
- Good understanding of Electrical Drawings, Planning of Projects, Erection & Maintenance.
- Both practical as well as theoretical knowledge of Different Electrical Instruments. Good at writing and analyzing Design Documents
- Excellent Problem solving skills with a strong technical background and good inter personal skills.
- Preparing data bases for electrical installations like Power Transformers, Bus, and Transmission line, Relay, Load and Generator etc. Understanding & conducting Load Flow analysis for various sections of a sub-Station

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## Trainning colleges:

1. Tudi Ram Reddy College Of Engineering, Hyd.
2. Brilliant College Of Engineering ,Hyd.
3. Indur Institute Of Engineering And Technology siddipet, Medhak.
4. Sudheer reddy College Of Engineering ,Nizamabad.
5. Megha College Of Engineering For Women.
6. C.V raman College Of Engineering ,Thadipatri, Ananthapur.
7. Sri Sunflower College Of Engineering ,Lankapalli, Krishna District.

8. Audi Shankara College Of Engineering (Autonomous) ,Nellore.
9. Kamakshi College Of Engineering Suryapet.
10. Sreedattha Institute Of Engineering And Science hyderabad, T.S, India.

**WORK SHOPS**

1. MATLAB -Sri sunflower college of engineering ,lankapalli, Krishna district.
2. MI-POWER,MATLAB - TKR COLLEGE OF ENGINEERING HYD.
3. MATLAB -QUIS college of engg ,Ongole.

## MATLAB Course Content

# 1.Introduction to MATLAB

1.1 What is MATLAB?

1.2 Foundation of MATLAB

1.3 Historical Background

1.4 Strengths of MATLAB

1.5 All the features of MATLAB

1.6 Weakness of MATLAB

1.7 Latest Updates in MATLAB

1.8 MATLAB environment

- 1.8.1 Command Window
- 1.8.2 Current Folder
- 1.8.3 Command History
- 1.8.4 Workspace
- 1.8.5 Editor Window

2. Operators
3. Keywords
4. Built-in Numerical function
5. Type ranges and type casting
6. MATLAB File Types

## 7. DATA and DATA flow in MATLAB

- 1.1 MATRIX Operation & operators
- 1.2 Reshaping Matrix
- 1.3 Importing Exporting of Data
- 1.4 Array ,Subarrays
- 1.5 Mathematical function and its user
- 1.6 Complex number and its operations
- 1.7 String representation and its utilization
- 1.8 Work with Multidimensional Array

## 8. File Editing and Debugging in MATLAB

- 8.1 Writing Script Files
- 8.2 Writing Function Files
  - 8.2.1 Introduction function input and output(nargin,nargout)
  - 8.2.2 Sub-function
  - 8.2.3 Nested function
  - 8.2.4 Private function
  - 8.2.5 Use of global variable
  - 8.2.6 Use of persistence variable
  - 8.2.7 String function
  - 8.2.8 Anonymous function and function handle
- 8.3 Inserting Breakpoints and Debugging
- 8.4 Error Correction
- 8.5 Saving files

## 9. Programming

- 9.1 Flow control
- 9.2 Conditional statement
- 9.3 Loop Statement
  - 9.3.1 break statement

## II. Introduction to SIMULINK

1.9 Creating Systems & Subsystems

1.10 Solver Configuration

**INTRODUCTION TO SIMULINK Tool**

1. Introduction to Library and tools in Simulink
2. Basic design methodology for Simulink tools

**INTRODUCTION TO SIM-Power Systems Tool**

1. Introduction to Library and tools in SIM-Power Systems
2. Basic design methodology for SIM-Power Systems tools

**INTRODUCTION TO SIMScape Tool**

1. Introduction to Library and tools in SIMScape
2. Basic design methodology for SIMScape tool

**CIRCUIT DESIGN IN SIMULINK**

1. Rectifiers
2. Inverters
3. Converters
4. Motors
5. Multilevel converters

| CATIA | | |
|---|---|---|
| Day1 | | Introduction to catia and software interface |
| Day2 | | Introduction To Sketcher, Sketch Tools, Types Of Constraints |
| Day3 | | Profile, Predefined Profile, Circle And Arc Types, Line Types, Point Types, Axis, |
| Day4 | | Fillet, Chmafer Types, Relimitations, Transformation Tools, Dynamic Sectioning, Measure, Apply Material And Exercise Related To Sketcher |
| Day5 | | Sketcher Exercise |
| Day6 | | Introduction To Partdesign, Sketch Based Features In Part Pad,Pocket, Drafted Filleted Pand And Pocket, Multipad And Pocketshaft, Groove,Hole |
| Day7 | | Rib, Slot, Multi section Solid, Remove Multi Section Solid, Solid Combine |
| Day8 | | Dress up Features, Reference Element Tool Bar |
| Day9 | | Transformation Features, Boolean Operations |
| Day10 | | Surface Based Features And Exercises Related To Part Design |
| Day11 | | Introduction To Surface And Wireframe All Options Like Point, Helix, Axis, Plane, Projection, Intersection |
| Day12 | | Surface Features Extrude, Revolve, Multi section Solid, Offset, Cylinder, Sphere, Fill, Blend |
| Day13 | | Operation Tool Bar Jpi, Heal, Dis Assemble, Un trim, Split, Trim, Scaling, Affinity, Boundary ,Extract, Symmetry, Translate, Rotate, Extrapolate |
| Day14 | | Assignment On Surface And Part Design |
| Day15 | | Introduction To Assemble Design, Types Of Assembly, Product Structure Toolbar, Constraints, Scenes, Move Toolbar, Catalogue Browser, Update |
| Day16 | | Assignment On Assembly |
| Day17 | | Introduction To Sheet metal Design , Sheet metal Parameters, Types Of Walls, Flanges, Cutouts, Views, Rolled Walls, Bending |
| Day18 | | Cutting, Stamping Options, Transformation Features |
| Day19 | | Introduction To Drafting, Generating All Views, Adding Title Block, Dimensions, Bom, Tables, Section View, Broken View, Offset Section View, Detail View |
| Day20 | | Test On Catia |

| UNIGRAPHICS | | |
|---|---|---|
| Day 1 | | Introduction to Nxcad and software interface |
| Day 2 | | Introduction To Sketcher,Profile,Rectangle,Line,Arc,Circle,Polygon,Ellipse,Studio Spline |
| Day 3 | | Offset Curves, Conic Sections, Mirror Curve, Datum Planes, Make Corner,Fillet,Chamfer,Move Curve, Offset Move Curve,Trim,Extend |
| Day 4 | | Dimensiong,Geometrical Constraints,Osnap,Visulaization, |
| Day 5 | | Introduction To Part Design Extrude,Revolve,Planes,Hole |
| Day 6 | | Unite,Subtract,Intersect,Shell,Edge,Face Blend,Chamafer,Trim Body, Draft |
| Day 7 | | Pattern Feature, |
| Day 8 | | More (Rib,Thread,Thicken,Scale Body,Split,Trim Sheet),Cut Face, Paste Face, Plane Changing |
| Day 9 | | Move Face, Offset Region, Replace Face, Delete Face, Pull Face, Resize Bend, Chamfer Etc |
| Day 10 | | Curves(Helix,Text,Curve On Surface,Offset Curve,Project Curve, Intersection Curve, Bridge Curve, Trim Curve) |
| Day 11 | | Practice And Assignment On Part Design |
| Day 12 | | Introduction To Sheet metal(Tab,Flange,Countour Flange, Hem Flange,Jog,Bend,Lofted Flange) |
| Day 13 | | Bridge Bend,Unform,Reform,Closed Corne,3 Bend Corner, Break Corner,Chmafer,Bend Taper, |
| Day 14 | | Punches(Dimple,Louver,Drawn Cutout,Bead,Solid Punch,Gusset,Normal Cutout,) |
| Day 15 | | Unbend,Rebend,Resize Bend Radius And Angle,Sheetmetal From Solid, Pattern |
| Day 16 | | Introduction To Surface Design(Surfaces,Swept,Edge Blend, Face Blend, Styled Blend |
| Day 17 | | 4point Surface, Filled Surface, Extract Geometry, Offset Surface, Trim Sheet, Trim Body, Trim And Extend |
| Day 18 | | Extend Sheet, Snip Surface,Tube,Swoop,Transition,Patch Opening,Sew,Thicken,Join Face, Delete Edge,X Form, Enlarge |
| Day 19 | | Introduction To Assembly,Constrants,Explode,Render |
| Day 20 | | Practice And Assignment On Surface, Assembly |
| Day 21 | | Drafting |
| Day 22 | | Test On Nxcad |

# RESUME

Name: Yashoda Bharathi

Contact no: 8179856590

DOB: 30-07-1993

E-MAIL: yashodabharathi12345@gmail.com

***Objective:***

To build a career in an organization that will utilize my knowledge and skills and enhance my domain expertise through training.

***Education:***

| *Degree* | *Institute* | *Board/University* | *Year of passing* | *% marks/cgpa* | *Stream* |
|---|---|---|---|---|---|
| SSC | St. Ann's school | AP Regular | 2009 | 93.46 | |
| PUC | IIIT Basar | RGUKT | 2009-2011 | 8.67 | M.BiPC |
| B.Tech | IIIT Basar | RGUKT | 2012-2015 | 8.09 | Mechanical Engineering |

***Internship & Project:***

- Organization: RINL-VIZAG Steel Plant
- Internship title: Study of LMMM department and failure analysis of pump shaft.
- Project title: Design and Failure analysis of spider in Jawcoupling.
- Team size: 3 members
- Project brief description:
  The most frequent problem in Lmmm department of vizag steel plant is wearing of spider which is placed in between 2 hubs of the Type jaw coupling. In that industry they were using SOX NBR spider material. we calculate the coupling torque capability and recommended changing the material of spider and coupling size. we calculate all the theoretical values of NBR and other alternative spider materials and finally we select urethane spider and L225 coupling size.
  **we design urethane spider by using Catia V5 and flow analysis and load analysis of the designed model performed by using ANSYS.**

***Software/Computer proficiency:***

- CAD Tools: NXCAD, Auto CAD, CATIA, SOLIDWORKS,ANSYS.
- Programming languages: BasicC, Python, DBMS.
- Operating Systems: Linux, Windows 7,8,8.1

***Experience:***

- working as a faculty in CADD Centre of Training Services.

***Skills:***

- ✓ Hardworking/professional
- ✓ Learning attitude
- ✓ Optimist
- ✓ deterministic

***Completed management courses along with Core subjects:***

- Managerial Economics
- Operational Research
- Foundation of management
- Production and operational management
- Principles of marketing

| Core Python | | |
|---|---|---|
| **S.No** | **Chapter** | **Topics** |
| 1 | Introduction to Python | Why people are learning Python |
| | | Who Introduced Python |
| | | Uses of Python |
| | | Features of Python |
| | | Organizations using Python |
| | | Distributions of Python |
| | | Download and Install Python |
| | | Verify the Python Installation |
| | | Python Programming Basics |
| 2 | Writing our First Python Program | Writing our First Python Program in 3 ways |
| | | Getting Help in Python |
| | | Different Editors and IDEs |
| | | Python Web Frameworks |
| 3 | Variables and Data types | Understanding a scenario of real time project |
| | | Variables and its store in Python |
| | | Assigning values, verifying data type |
| | | Multiple assignment, deleting a variable |
| | | Data types in Python |
| | | Categories of Data types |
| | | Fundamental types and Collection types |
| | | Mutable and Immutable types |
| | | DocString |
| | | Comments in Python |
| 4 | String Handling | Working with Strings |
| | | Indexing in Strings |
| | | Slicing in Strings |
| | | Working with different string methods |
| 5 | Operators | Arithmetic Operator |
| | | Assignment Operator |
| | | Relational Operator |
| | | Logical Operator |

| | | |
|---|---|---|
| | | Boolean Operator |
| | | Bitwise Operator |
| | | Membership Operator |
| | | Identity Operators |
| 6 | Input and Output Statements | Reading input from keyboard |
| | | Working with input() |
| | | Converting string to Integer |
| | | Converting string to Float |
| | | Reading Multiple inputs from Keyboard |
| | | Working with print() function |
| | | formating variables using print |
| | | place holders in python |
| 7 | Control Statements | Indentation |
| | | if |
| | | if else |
| | | if elif elif else |
| | | while |
| | | for |
| | | else-suit |
| | | break |
| | | pass |
| | | continue |
| | | assert |
| | | return |
| 8 | Functions | Function without return |
| | | Function with return |
| | | Function returning multiple values |
| | | Function as objects |
| | | Pass by Value & Pass by Reference |
| | | Arguments in Functions |
| | | Local and Global Variables |
| | | Recursive Functions |
| | | Lambdas Function |
| | | Using lambdas with filter() and map() |

| | | |
|---|---|---|
| | | Function Decorators |
| 9 | Collections | List (Diff types of list creation, Working with list methods, working with nested list and list comprehensions |
| | | Tuple (Diff types of tuple creation, working on indexing and slicing) |
| | | Set (Diff ways of set creation, working with set, set comprehension) |
| | | Dictionary (Diff ways of dict creations, items(), working with dict methods and dictionary comprehensions |
| 10 | Modules and Packages | Understanding module in Python |
| | | Different ways of importing a module |
| | | builtins module |
| | | Installing and uninstallinga a third party module |
| | | Understanding Package in Python |
| | | Working with package and subpackages |
| | | **Adv Python** |
| 11 | OOPS | Problems in procedure oriented program languages |
| | | Oops principles |
| | | Encapsulation |
| | | Class & Object |
| | | Static variables, Non Static variables and Local variables |
| | | Constructor, Garbage Collectors and Destructors |
| | | Is a Relationship & Has a Relationship (Inheritance) |
| | | Types of Inheritances, Object class |
| | | Polymorphism |
| | | Method Overloading |
| | | Method Overriding |
| | | super & self |

| | | |
|---|---|---|
| | | Data Abstraction |
| | | Non Static Method, Class Method and Static Methods |
| 12 | Abstract Classes and Interface | Understanding different types of methods (concrete & abstract) |
| | | Working with Abstract class |
| | | Working with Interface |
| 13 | Exception Handling | Errors in Python program |
| | | Exceptions |
| | | Types of Exceptions |
| | | Exception Handling |
| | | The complete Exception Handling syntax |
| | | Types of Except Blocks |
| | | The Assert Statement |
| | | User Defined Exceptions |
| | | Logging Exceptions |
| 14 | File Handling | What is a File |
| | | File Modes |
| | | Types of Files in Python |
| | | Reading data from the file |
| | | Writing data into the file |
| | | Knowing a file exists or not |
| | | Working with Binary files |
| | | With statement in files |
| | | Pickle and Unpickling in files |
| | | Zipping and Unzipping the files |
| 15 | Introduction to Django Framework | Understanding importance of Web application |
| | | Download and install python virtual environment |
| | | installation of django framework |
| | | Understanding the hierarchy of Application |
| | | Developing a "Hello World" wed application using django |
| | | executing on a development server |

Dear Sir,

Please find below my short bio-data

- Experienced Community Manager & Developer Advocate with a demonstrated history of working in the information technology and services industry.
- Skilled in various IBM technology stack like DB2, Rational, Tivoli, Web Sphere and Lotus
- Strong entrepreneurship professional where we worked with more than 600 startups across the country through IBM Global Entrepreneur Program
- Earlier to this role, worked as full time with academic initiative division of IBM, been to 150+ Engineering colleges and trained more than 1.5 lakh students across the country
- In 20102, worked as program manager for IBM TGNC which is India's biggest student development contest where 2 lakh + students took part in from 1800+ engineering colleges across India.
- Perusing Phd. From KL UNIVERTSITY & completed UG,PG from JNTUH

Thanks

C Yuktesh
Developer EcoSystem & Startups
IBM India Pvt. Ltd.
Banjara Hills,Hyderabad-500034
Telangana
India

**Curriculum Analysis Based on CO, PO/PSO Mapping:**

The entire curriculum of Electronics and Communication Engineering is analyzed on the basis of PO/PSO mapping. The result of this analysis is presented below:

| Calculation of CO & PO target level | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Courses** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** | **PSO 1** | **PSO 2** | **PSO 3** |
| **C111** | 2.86 | 2.86 | - | 2.8 | 3 | - | - | - | - | - | - | 1 | - | - | - |
| **C112** | 3 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **C113** | 3 | 2.67 | 3 | 2 | 3 | - | - | - | - | - | - | 1 | 2 | 2.25 | 2.5 |
| **C114** | 3 | 2 | 2.5 | - | - | - | - | - | 2 | 2.5 | 2 | - | - | - | - |
| **C115** | 3 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **C116** | 1.5 | 3 | 2.66 | 2 | 3 | 2 | - | - | 3 | - | - | - | 2.8 | 2 | - |
| **C121** | 2.33 | 3 | - | 3 | - | - | - | - | - | - | - | 1 | - | - | - |
| **C122** | 3 | 1.75 | - | - | - | 2 | - | - | - | - | - | - | - | - | - |
| **C123** | 2.33 | 2.25 | 2.2 | - | 2 | 2 | 2 | - | 1 | - | - | - | 1.5 | 1.33 | - |
| **C124** | 2 | 1 | - | - | - | 1 | 1.71 | - | 2 | - | - | - | - | - | - |
| **C125** | 2 | - | - | - | 1.67 | - | - | 1.83 | - | 2.33 | - | 2.33 | - | - | - |
| **C126** | 2.8 | 2.75 | 3 | - | - | - | - | - | - | - | - | - | - | - | - |
| **C127** | - | - | - | - | 1 | - | - | - | 2 | 3 | - | 2 | - | - | - |
| **C128** | 2.4 | 2.3 | 2 | 2.3 | 3 | 2.3 | 2.5 | 2 | 2 | 2.3 | 2.5 | 2.5 | 2.8 | 2.5 | 2.7 |
| **C211** | 3 | 2.5 | 1.5 | | | | | | | | | | | | 2 |
| **C212** | 2.5 | 2 | 2.16 | 1.66 | 1.5 | | | | | | | 1 | 2.6 | 2.5 | 1.33 |
| **C213** | 2.5 | 2.33 | 2.83 | 1.67 | 1.75 | 2 | 2 | - | - | - | 2 | 1 | 2.67 | 2.33 | 1.33 |
| **C214** | 3 | 3 | - | - | - | - | - | - | - | - | - | - | 2.67 | 2 | - |
| **C215** | 2.33 | 1.66 | 1.83 | - | 1.5 | 0.33 | - | - | - | - | - | - | 1 | 0.33 | 1.66 |
| **C216** | 3 | 3 | 2.33 | - | - | - | - | - | 2 | 2 | - | 2 | 3 | 3 | - |
| **C217** | 3 | 3 | 2 | 2 | 3 | - | - | - | 2 | 1 | - | 2 | 3 | 3 | - |
| **C218** | 2.4 | 2.3 | 2 | 2.3 | 3 | 2.3 | - | - | 2 | 2.3 | 3 | 2.5 | 2.8 | 2.5 | 2 |
| **C219** | - | - | - | - | - | - | 3 | - | - | - | - | - | - | - | - |
| **C221** | 2.83 | 1.66 | 2.4 | 2.5 | 1.25 | 1 | | | | | | | 2.16 | 2 | 1 |
| **C222** | 2 | 2 | 3 | 1 | 2 | 1 | 2 | - | - | - | 1 | 1 | 3 | 2 | 1 |
| **C223** | 2 | 2.5 | 3 | - | 2.8 | 2 | - | - | - | - | - | - | 2 | 2 | 2 |
| **C224** | 1 | 3 | 2.6 | 2 | 3 | 2 | - | - | 2.2 | - | - | - | 2.67 | 2 | - |
| **C225** | 1.75 | 1.6 | 2 | 1.66 | 2.33 | 1.25 | 1 | 1.66 | 1.75 | 2 | 1.66 | 1.25 | - | 1 | 1 |
| **C226** | 3 | 3 | 2.5 | - | 2.33 | - | - | - | - | - | - | 3 | 2.8 | 2.8 | - |
| **C227** | 2.83 | 1.67 | 2.83 | 1.83 | 1.5 | 1 | 2 | - | - | - | 1 | 1 | 2.83 | 2 | 1.5 |
| **C228** | 2.5 | 2 | 2.17 | 1.67 | 1.5 | - | - | - | - | - | - | 1 | 2.7 | 2.5 | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C229** | - | - | - | - | - | 3 | 2 | 2 | 2 | 1 | 2 | 2 | - | - | 1.5 |
| **C311** | 2.6 | 2.5 | 2 | 3 | 2 | - | - | - | - | - | - | 1 | 2.25 | 1.8 | 1.25 |
| **C312** | 2 | 1.66 | 2 | 1.16 | 1 | 1 | - | - | - | - | - | 1 | 2.33 | 2 | 1.33 |
| **C313** | 3 | 2 | - | - | 2 | - | - | - | - | - | - | - | 3 | - | - |
| **C314** | 3 | 3 | - | 2 | - | 2.5 | - | 2 | 2 | - | 2 | - | - | - | 2.67 |
| **C315** | 3 | 2 | 2.4 | 2 | 2.3 | - | - | - | - | - | - | 2 | 2.16 | 1.8 | 1 |
| **C316** | 2.2 | 3 | 2.4 | - | 2.5 | - | - | - | - | - | - | 2.4 | 2.8 | 2.2 | 2 |
| **C317** | 1.8 | 1.67 | 2.75 | 1 | 2 | 2 | - | - | 1 | - | - | - | 2.8 | 2 | 1.67 |
| **C318** | 2.83 | 2.3 | - | - | 2 | - | - | - | - | - | - | - | 3 | 2.7 | - |
| **C319** | - | - | 2 | - | - | 1.66 | 2.66 | 2.4 | - | - | - | 1.66 | - | - | 1 |
| **C321** | 3 | 2 | - | - | - | 1 | - | 2 | 2 | - | - | 2 | - | - | 2.83 |
| **C322** | 2.33 | 2.6 | 2.2 | 2.5 | | 3 | | | 2 | | | 3 | 3 | 2.33 | |
| **C323** | 2.43 | 2.31 | 2.34 | 1.75 | | 1.92 | 2.66 | | | | | 2.27 | 2.90 | 2.31 | 1.88 |
| **C324** | 1.25 | 3 | 2.5 | 2 | 3 | 2 | - | - | 3 | - | - | 3 | 2.5 | 1.83 | - |
| **C325** | 2.75 | 2.5 | 3 | 2 | - | 3 | - | - | - | - | - | - | 3 | 2.33 | - |
| **C326** | 3 | 3 | 2.75 | 2 | 3 | - | - | - | 2 | 1 | - | 2 | 3 | 3 | - |
| **C327** | 1.8 | 2 | 2.7 | - | 3 | - | - | - | - | - | 2.7 | - | 2.2 | 2.8 | - |
| **C328** | 1 | 1 | - | 1 | 1.5 | - | 1 | 2 | 1.5 | 2.2 | 1.5 | 1.33 | - | - | 1 |
| **C411** | 2.17 | 2.5 | - | 2 | - | 2 | - | 3 | 2 | - | 2 | - | - | - | 2.67 |
| **C412** | 2.33 | 2.33 | 2 | 3 | 2.75 | - | - | - | 2 | - | - | 3 | 2.66 | 1.83 | 1.33 |
| **C413** | 2 | 2.3 | 2.5 | 2 | 2.5 | - | 2 | - | - | 2 | - | - | 1.66 | 2 | 1.5 |
| **C414** | 3 | 2 | 2.33 | 2 | 2 | | | | | | | 2 | 2.33 | 2.8 | 2 |
| **C415** | 3 | 2.6 | 3 | 3 | - | - | - | - | - | - | - | 2 | 1.66 | - | 1.66 |
| **C416** | 2.33 | - | 2.66 | - | 2.66 | - | - | - | - | - | - | - | 2.5 | 2.66 | 2 |
| **C417** | 1 | 1 | - | 1 | 1.5 | - | 1 | 2 | 1.5 | 2.2 | 1.5 | 1.33 | - | - | 1 |
| **C418** | 3 | 2 | 2.5 | 2 | 2 | 1 | - | - | - | - | - | - | 3 | 3 | - |
| **C421** | 2.5 | 2.4 | 2.5 | 3 | 2 | | | | | | | | 2.5 | 2.8 | 2 |
| **C422** | 3 | 2 | - | - | 3 | - | - | - | - | - | - | - | 3 | - | - |
| **C423** | 2.2 | 1 | 2 | 2.25 | 2.33 | 2 | 1 | | | 1.5 | | 1.5 | **1** | | **2** |
| **C424** | 2.5 | 2 | 2.75 | 3 | 2.5 | - | - | - | 3 | 3 | - | 2 | 3 | 3 | 3 |
| **C425** | 3 | 3 | - | 3 | - | 3 | - | 3 | 3 | 3 | 2 | 3 | 3 | - | 2.5 |
| **C426** | 2.5 | 2 | 2.5 | 3 | 2.5 | - | - | - | 3 | 3 | - | 2 | 3 | 3 | 3 |
| **C427** | 3 | 3 | 2 | 2.5 | - | 2 | - | - | - | 3 | 3 | 3 | 3 | 3 | 2.5 |
| **PO Average** | 2.47 | 2.27 | 2.42 | 2.12 | 2.25 | 1.84 | 1.90 | 2.17 | 2.08 | 2.19 | 1.99 | 1.87 | 2.55 | 2.28 | 1.82 |

90 % or 2.70 is considered as threshold value of curricular CO-PO wise contribution for PO1 to PO5, PSO1 to PSO3 and from PO6 to PO12 2.1 is considered.

| Sr. No. | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Threshold | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.7 | 2.7 | 2.7 |
| CO-PO Contribution | 2.47 | 2.27 | 2.42 | 2.12 | 2.25 | 1.84 | 1.90 | 2.17 | 2.08 | 2.19 | 1.99 | 1.87 | 2.55 | 2.28 | 1.82 |
| Curriculum gap ( scope for beyond syllabus) | 0.23 | 0.43 | 0.28 | 0.58 | 0.45 | 0.26 | 0.2 | - | - | - | 0.11 | 0.23 | 0.55 | 0.42 | 0.88 |

**Curricular Gaps bridged through various activities:**

1. Campus Recruitment Training (CRT) and Student Empowerment and Entrepreneurship Development (SEED) classes are organized during the semester to meet the gaps (PO10, PO11).
2. There is no course/laboratory to impart/emphasis on social responsibility so we are conducting NSS activities (PO6, PO9).
3. Expert talk and seminars are organized to cover the understanding the applications of respective course (PO12).
4. Workshops are organized for the demonstration and execution of fundamentals and/or complex problems of respective course (PO2, PO3, PO4, PO5, PO8 and PO12).
5. The students are actively involved in the events like Annual Day, Technical Fest, Sports, Cultural Fest are organized during the academic year (PO6, PO7, PO9, PO10, PO12).

**Use of various instructional methods and pedagogical initiatives:**

The mode of learning requires the students and teachers to be in sync for the course delivery to take place. This mode is very useful in addressing each student needs in person and getting acquainted with their deficiencies and requirements. Through this mode of delivery, students become more motivated and their active response is encouraged. Many synchronous course delivery mechanisms are used by the department as follows:

1. Classroom instruction.
2. Instruction using Teaching Aids.
3. Laboratory instruction.
4. Tutorial classes.
5. Assignments.
6. Remedial classes.
7. Student seminars.
8. Group discussions.
9. Guest lectures.
10. Workshops.
11. Project

1. Regular Classroom Instruction

This involves regular class room instruction to deliver the content of all the courses to the students on a day to day basis to train them in all core subjects of Electronics and Communication Engineering. Soft skills are also imparted through class room contacts in communication skills, professional ethics, etc. Classroom instruction is also used to impart all the other skills to the students required for achieving all the outcomes.

2. Instructions using Teaching aids

All the Classrooms are provided with LCD projectors.

3. Laboratory Instruction

This involves faculty members giving instructions on laboratory exercises in the laboratories where students learn by means of hands on sessions. Faculty members give instructions using laboratory equipment on how each experiment is done and students are instructed to complete the given experiments by using the equipment assigned to them. This mode of delivery is very effective and efficient student -centric learning mechanism as the students perform and understand how the concepts learned in theory courses help them in solving real world problems.

4. Tutorial Classes

Tutorial classes are also conducted as per the schedule prepared, during which the faculty assigns tasks to students, invites interaction and tries to solve their problems in the subject.

5. Assignments

Assignments are designed in such a way that the student will have to refer the books in all the courses to develop the ability in the students to do problems covering all the concepts in the subject which are to be done along with the fellow students in the learning group, inculcating group learning skills, along with engineering problem solving skills.

6. Remedial Classes

Remedial classes are conducted for students who could not do well in examinations The Faculty discusses the answers written by the students and helps them to understand better by clearing the doubts and common mistakes in that subject.

7. Student Seminars

Students are encouraged to give seminars on the contemporary topics related to the course and are helped in preparing for the seminar. This not only develops the knowledge of the students in the latest areas, but also helps communication skills and presentation skills.

8. Group Discussions

Students are given various topics from the courses and as well as on various local and global issues when participating in group discussions through which they are made aware of the issues.

9. Guest Lectures

Guest lectures are conducted by inviting experts from the industry, research organizations. This gives the student in-depth/advanced concepts in the course this in turn help in the attainment of the program outcomes.

10. Workshops

Students are trained in theory and practice by conducting workshops regularly that turn for two to three days in latest technological developments both in the core and related areas. These programs are conducted by industry to equip student with the required knowledge and also to be aware of usage and applications of the technology in the real world. These programs also cultivate the student's interest in life-long learning.

11. Projects

Students are made to go to industry to design and develop projects in third year second semester and final year second semester by forming a batch of students (two to three students per batch). They use all the knowledge they have gained during the course work. These projects further help them in understanding the issues that arise while executing the project models by meeting the realistic constraints. An internal guide is assigned to all projects and

he/she guides from the starting stage until the completion of the project and also for the preparation of the documentation.

**Pedagogical initiatives**

1. Animations: In Subjects like Microwave Engineering Animations are used to teach few concepts and make the student understand the concept thoroughly.
2. Demonstration: To understand the concepts of 3D axis different types of coordinate system in Electromagnetic waves and Transmission lines a3D axis model is made through which the concept is taught in the class.
3. PPT mode of Instructions is used in classes for few subjects.
4. Group discussion on few topics is used in order to promote student centric learning.

**Hobby Projects**

Students are preparing projects apart from their regular curriculum. Following is the list of projects prepared by students of ECE Department.

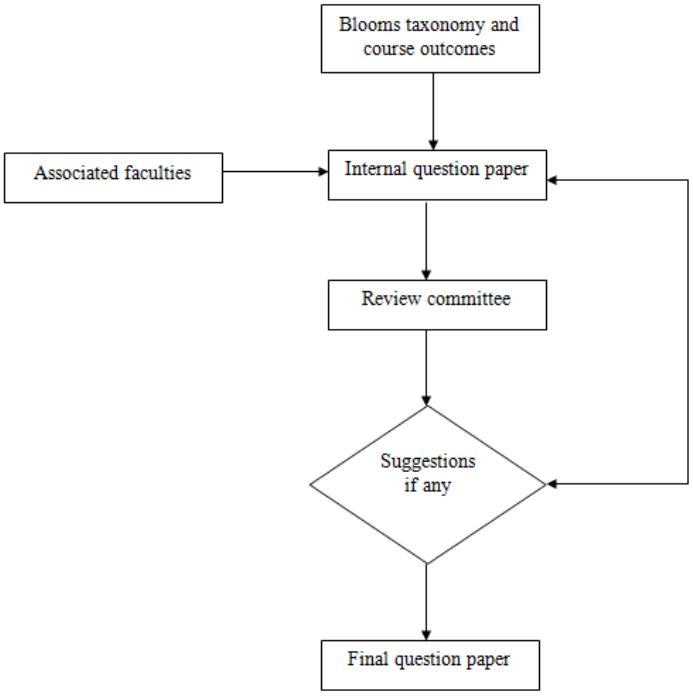
| Sr. No. | Hall ticket No | Student Name | Title |
|---|---|---|---|
| 1 | 17RA1A0447 | Srilatha | Soil Moisture sensor using ESP8266 |
| | 17RA1A0438 | Preethi | |
| 2 | 17RA1A0432 | Preethika | Smart Controller |
| | 17RA1A0422 | Mani Kumari | |
| 3 | 16RA1A0405 | Akhila | Home Automation System using ESP8266 |
| | 16RA1A0414 | Harika | |
| | 16UA1A0487 | Preethi | |
| 4 | 17RA1A0431 | Prashanthi | Traffic Light Controller using Aurdino |
| | 17RA1A0415 | Keerhti | |
| | 17RA1A0426 | Niharika | |
| 5 | 17RA1A0405 | AurabindoNaik | Obstacle detecting robot |
| | 17RA1A0423 | Manu Kaushik | |
| | 17RA1A0429 | Prasad Pichi Reddy | |
| 6 | 16UA1A0404 | Akhil | Portable Mobile Charger |
| | 16UA1A0420 | Nikhil | |
| | 16UA1A0427 | Venkatesh | |
| 7 | 17RA1A0416 | Krishna Veni | Smart dustbin using Aurdino |

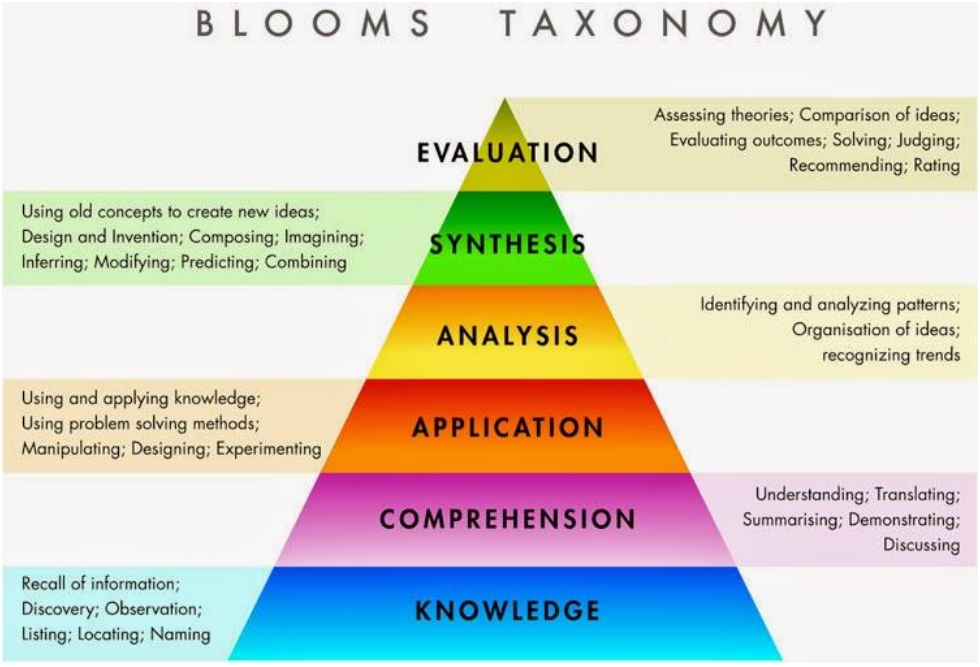
| | | | |
|---|---|---|---|
| | 17RA1A0448 | Supriya | |
| 8 | 17RA1A0409 | Dileep | Audio Amplifier |
| | 17RA1A0441 | Santosh | |
| | 17RA1A0451 | Ugender | |
| 9 | 16RA1A0416 | Raghavan | Clap Switching |
| | 16RA1A0421 | SaiKrian | |
| | 17RA1A0429 | Vikas | |
| 10 | 16RA1A0413 | Gopal | Decade Counter |
| | 16RA1A0419 | Chary | |
| 11 | 16RA1A0422 | Sai Kumar | Up Counter |
| | 16RA1A0424 | Shivaji | |
| | 16RA1A0425 | Shrujan | |
| 12 | 17RA1A0427 | P. Nikitha | Down Counter |
| | 17RA1A0428 | V. Nikitha | |
| 13 | 17RA1A0413 | Harish Reddy | Electronic Dice |
| | 17RA1A0414 | Sudharshan | |
| | 17RA1A0453 | Yashwanth | |
| 14 | 17RA1A0421 | Manideep | Google Assisted Voice Controller Message Display |
| | 17RA1A0444 | Sharwani | |
| 15 | 17RA1A0418 | Mahathi | Fire Alarm Detection system using Aurdino |
| | 17RA1A0434 | Ramya | |

**Effective process implementation:**

Question papers are set and peer reviewed by a group head. Initial question paper for mid semester exam is set by following mention steps.

1. Initial draft of the paper is prepared by concerned subject faculty by taking into consideration of blooms taxonomy and Course outcomes.
2. Draft of the paper is then presented to the department review committee for review.
3. The review committee may give comments if any.
4. Question paper is revised after including the suggestions of review committee and presented once again to review committee till it is approved.
5. Final paper is drafted after approval of the review committee.




**A. Process to ensure question from outcomes/ learning levels perspectives:**

1. For each question given in the question paper the relevant CO and blooms taxonomy levels are mapped and specified.
2. Analysis is carried out based on course outcomes and blooms taxonomy levels.

## B. Evidence of COs coverage in class test/ mid semester tests:

A sample of mid semester question paper is specified below.

**A.Y.: 2018-19**

KOMMURI PRATAP REDDY INSTITUTE OF TECHNOLOGY
(COLLEGE OF ENGINEERING)
GHANPURAM(V), GHATKESAR (M), Medchal DIST -501301

III B.Tech - II Sem (R16) | DESCRIPTIVE TEST – I | A.Y.: 2018 - 2019

Branch: ECE
Class: B.Tech
Max. Marks:10 M

Subject Name: Digital Signal processsing
Date of Exam. : 19-02-2019
Time: 10.00-11.30 AM

Answer the following question: **2 x 5 = 10**

1. A). Solve whether the system is memory less, time-invariant, linear, and Stable for the following input-output relationship y(n)=x(n-2)-2x(n-17) [C325.1] [Evaluation] .....2.5 Marks
   B). Calculate the impulse response of the system described by the difference equation y(n)-3y(n-1)-4y(n-2)=x(n)+2x(n-1) using Z-Transform. [C325.1][Analysis] .....2.5 Marks
2. A). Analyze the response of y(n)+y(n-1)-2y(n-2)=u(n-1)+2u(n-2) due to y(-1)=0.5, y(-2)=0.25 [C325.1] [Analysis] .....2.5 Marks
   B). Identify the DFT of the square wave sequence
   x(n)={1 for 0≤n≤N/2-1
   -1 for N/2≤n≤N-1} Where N is even. [C325.2][Knowledge].....2.5 Marks
3. Solve the IDFT of the sequence X(K)={20,-5.828-j2.414,0,-0.712-j0.414,-0.712+j0.414,0,-5.828+j2.414} using DIF-FFT algorithm [C325.2] [Evaluation] .....5 Marks
4. A). Calculate FFT for the sequence x(n)={1,0,1,1,0,1,1,1} using DIT-FFT Algorithm. [C325.2] [Analysis] .....3 Marks
   B). Explain the advantages of Butterworth Filter. [C325.3][Comprehension] .....2 Marks

KOMMURI PRATAP REDDY INSTITUTE OF TECHNOLOGY
(COLLEGE OF ENGINEERING)
GHANPURAM(V), GHATKESAR (M), R R DIST -500088

III B.Tech - I Sem (R15) | DESCRIPTIVE TEST – I | A.Y.: 2017 - 2018

Branch: ECE
Class: **B.Tech**
Max. Marks:10 M

Subject Name: Analog Communications
Date of Exam. : 14-9-2017
Time: 10.00-11.30 AM

**PART - A**

Answer the following question: **2 x 3 = 6**

1. a. Explain the generation of AM wave using square law modulator.[C315.1][Comprehension] .....3 Marks

   OR

   b. Explain how to generate SSB using phase shift method? [C315.2][Comprehension] .....3 Marks

2. a. Describe how a ring modulator is used to produce DSBSC. [C315.2][Knowledge] .....3 Marks

   OR

   b. Generalize the effects of phase errors in synchronous detection by considering SSBSC. [C315.2][Comprehension] .....3 Marks

**PART - B**

Answer any **TWO** of the following questions: **2x 2 = 4**

1. Design an Envelope detector to demodulate the AM wave. [C315.2][Synthesis] .....2 Marks
2. Compare various AM techniques? [C315.2][Evaluation] .....2 Marks
3. Solve the frequency spectrum for FM wave by considering single tone frequency modulation. [C315.3][Evaluation] .....2 Mark

**Report of CO-PO attainment in Project:**

Each guide monitors the project progress and also identifies the CO's, PO's attained from the projects in a systematic way. A sample project analysis for the CO's, PO's attained is shown below.

**Academic Year:** 2018-19

**Project Title:** IoT enabled Electronic Mirror with Time, News and Temperature

**Guide(s):** Dr. Vipul Dabhi

**Student Name(s):** V. Sai Rishik (15RA1A0422)
M. Supraja (15RA1A0411)
M. Sai Teja (15RA1A0409)

| Name of Course from which Principles are applied in this project | Related Course Outcome Number | Description of the application | Page Number | Attained PO |
|---|---|---|---|---|
| ESD(C416) | C416.1 | Explained about the Introduction and Objective of the project | 1-3 | PO1 |
| MEFA(C321) | C321.1 | Identified the objective, and prospective solution of the project | 4-5 | PO4, PO11 |
| MPMC(C325), COOS(C312) | C325.3, C312.1 | Description of the Proposed system | 6 | PO3 |
| EDC(C215), PEE(C214) | C416.1, C214.1 | Description of the Block diagram and identified the hardware required for the project | 7-8 | PO5 |
| COOS(C312) | C312.4 | Explained about the Operation and working of the block diagram. | 8-9 | PO1, PO3 |
| MEFA(C321) | C321.1 | Understand the market dynamics and Demand | 10-12 | PO3, PO5, PO6 |

| | | | | |
|---|---|---|---|---|
| ES(C224)<br>MEFA(C321) | C224.2,<br>C321.1 | Understand the present natural resources and usage of them. | 13-17 | PO1,PO5,PO7 |
| MPMC(C325)<br>ESD(C416) | C325.1<br>C416.1 | Introduction to the Hardware components | 18-22 | PO3, PO4, PO12 |
| MPMC(C325)<br>CN(C413) | C325.2<br>C413.1 | Pin description of the hardware | 22-27 | PO1, PO10 |
| CN(C413) | C413.2 | Protocols and Ethernet usage | 28-31 | PO3 |
| ESD(C416) | C416.2 | Comparison of embedded system and computing system. | 32-33 | PO11, PO6 |
| CO & OS(C312)<br>CN(C413) | C312.2<br>C413.3 | Setup of the hardware components | 34-39 | PO1, PO3 |
| OOPS(C415)<br>CN(C413) | C415.1<br>C413.3 | Explanation of the software for GUI. | 40-49 | PO1, PO4 |
| CO&OS(C312) | C312.5 | Understanding the objectives of Operating system. | 50-57 | PO1, PO3 |
| CN(413) | C413.6 | Understanding the HTTP protocols and several network services | 58-77 | PO1, PO3, PO4 |