Criterion 7 – Institutional Values and Best Practices
Key Indicator - 7.2 Best Practices

7.2.1 Describe at least two institutional best practices.

Sr.No.	Documentary Evidences / Sample Documents	Page No.
1	Sample documents for project based Learning	1-70
2	Sample documents for Library book bank Scheme.	71-85

Project Based Learning

Year: 2018-19

Semester: VII

Subject: Remote Sensing & Application of GIS in Civil Engineering

Roll No	Name of Student
05	Chavan Sushant Suresh
41	Nagmal Pramod Pandurang
52	Sawant Sushant Madhusudhan
53	Shelar Ajay Krishna
61	Zanjurne Saurabh Satish

PROJECT BASED LEARNING

DEPARTMENT OF CIVIL ENGINEERING

COURSE: REMOTE SENSING & APPLICATION OF GIS IN CIVIL ENGINEERING

CLASS: B.E. (CIVIL)   SEMISTER: VII   YEAR: 2018-19

DURATION:

TITLE: TYPES OF RESOLUTIONS USED IN REMOTE SENSING

1. INTRODUCTION

In remote sensing the term resolution is used to represent the resolving power, which includes not only the capability to identify the presence of two objects, but also their properties. In qualitative terms the resolution is the amount of details that can be observed in an image. Four types of resolutions are defined for the remote sensing systems.

- Spatial resolution

- Spectral resolution

- Temporal resolution

- Radiometric resolution

2. SPATIAL RESOLUTION

Spatial Resolution describes how much detail in a photographic image is visible to the human eye. The ability to "resolve," or separate, small details is one way of describing what we call spatial resolution. Spatial resolution of images acquired by satellite sensor systems is usually expressed in meters.

For example, we often speak of Landsat as having "30- meter" resolution, which means that two objects, thirty meters long or wide, sitting side by side,
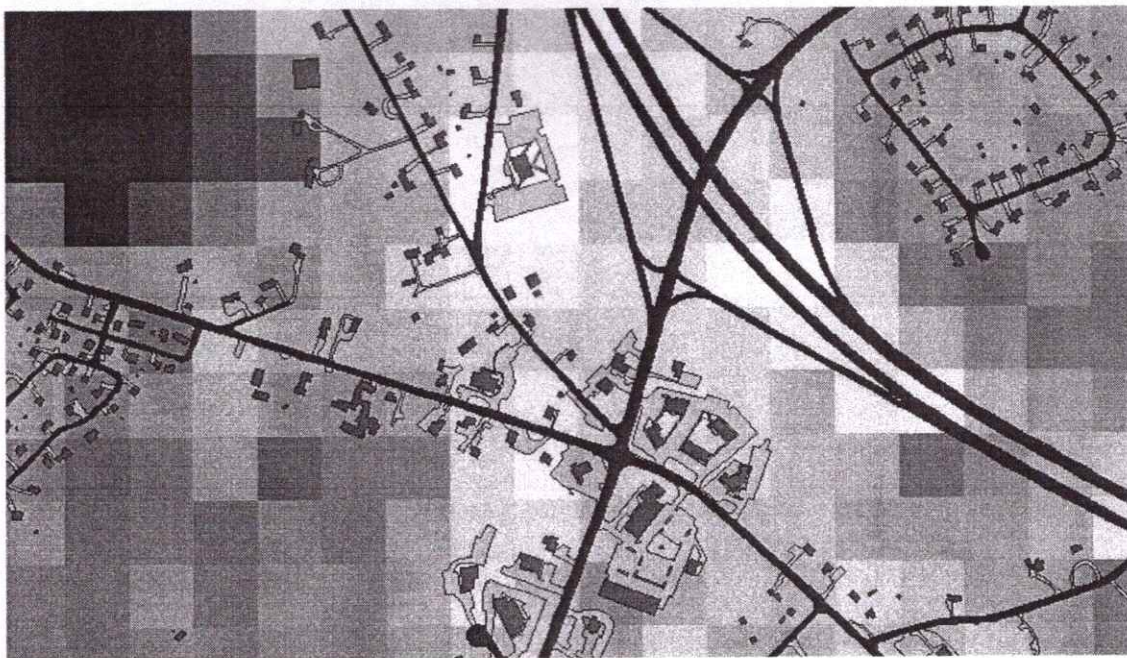
can be separated (resolved) on a Landsat image. Other sensors have lower or higher spatial resolutions.

Spatial Resolutions

Planimetric Data – Roads, Buildings, Driveways
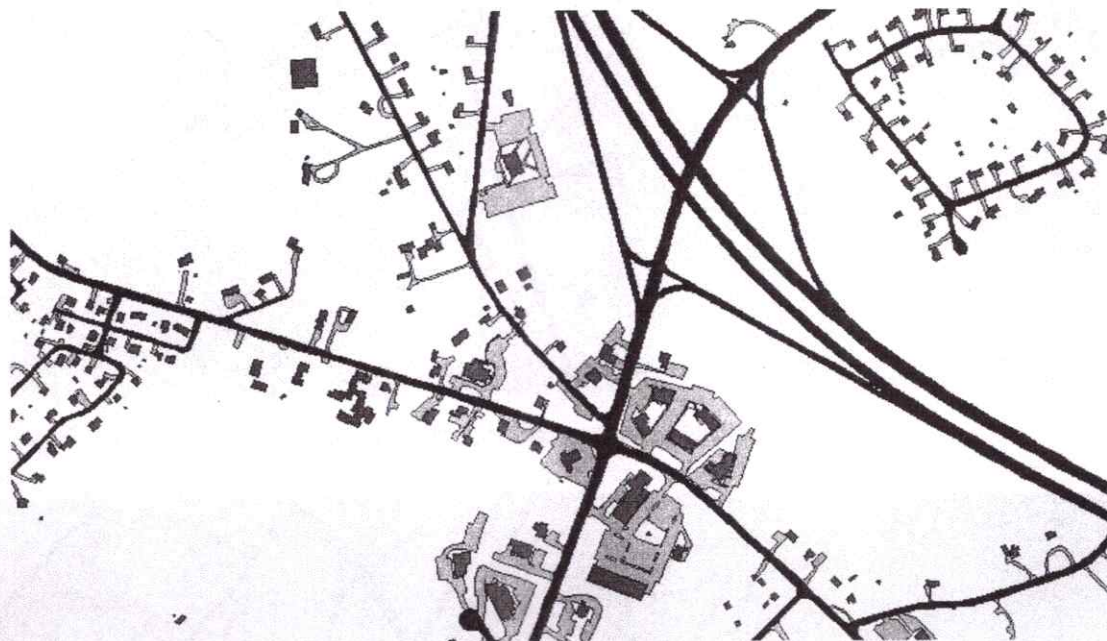
80 Meter MSS w/ Planimetric Overlay

1 Meter DOQ w/ Planimetric Overlay

Sub-meter Data w/ Planimetric Overlay

Spatial resolution usually refers to the size of the instantaneous field of view (IFOV) or the ground pixel. Although alternative definitions exist (Mather, 1987), this is the meaning that will be used here. The IFOV is the area on the ground that is viewed by the sensor at a given instant in time. As such, it usually represents the ground area that is represented by each pixel in a

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remotely sensed image. The IFOV can be indicated as the ground dimensions of each pixel, or as the instantaneous angular measurement of the sensor field of view.

Spatial resolution is controlled by the scan rate, the dimensions of the detector array, and the rate at which the analog output, produced by each detector element as the scanning mirror sweeps across the surface, is integrated and sampled for conversion to digital output.

Spatial resolution is usually given as "nominal" spatial resolution which refers to the resolution for a sample obtained from the nadir viewing position at the specified altitude of the satellite.

For some sensors, the actual resolution can vary considerably across the scan line. This is especially problematic for the Advanced Very High Resolution Radiometer (AVHRR) sensors aboard the NOAA series of meteorological satellites.

Due to the wide swath width of the AVHRR instrument (+/- 56 degrees from the surface normal or about 3000 km) AVHRR pixel dimensions become increasingly distorted away from nadir as view zenith angles increase. At the extreme edges of the scan, the nominal AVHRR resolution of 1.1 km is distorted to 2.4 km in the along track direction, and 6.5 km in the across track direction (Goward *et al.* 1991).

Spatial resolution has important implications for:

- how we define objects on the surface;
- the scale of analysis;
- locational precision and accuracy;

- areal accuracy;
- purity of the spectral response;
- data volume and data processing costs.

The higher (or finer) the *spatial resolution*, the more completely and precisely the *shapes* of objects are sampled, the more readily objects can be identified based on their shape, and the more accurately the precise location, extent and area of objects can be determined.

As such, the spatial resolution of the data must be able to support the objectives of a given remote sensing project. Clearly, mapping the boundaries of the reservoir shown in Figure 14 cannot be adequately achieved using 1 km resolution data.

Frequently, an important consideration in sensor design is balancing the objectives of attaining high spatial resolution, while maintaining a high signal/noise ratio. The smaller the IFOV, the less total radiant energy will be incident upon the detector element. As a result, the signal/noise ratio will suffer. This can be counterbalanced by either increasing the dwell time, or increasing the spectral bandwidth.

2. SPECTRAL RESOLUTION

Spectral resolution refers to the number, spacing, and width of the sampled wavelength bands along the electromagnetic spectrum. Technically, spectral resolution is controlled by the beam splitting and focusing apparatus in the sensor, by the design of the detector arrays, and by the specific sensitivities of the photon detectors, or photovoltaic elements in the detector arrays.

It is known and easily observable that different surface objects have unique, or characteristic spectral signatures.

The higher the *spectral resolution*, the more completely and precisely the *spectral signature* of each individual IFOV will be sampled, and the more readily different scene elements can be classified or discriminated based on those signatures. The following figure shows how a common sensor, Landsat Thematic Mapper, samples the spectra of three common scene elements.

Spectral band width and band placement are typically chosen so as to:

- take advantage of (sample) key unique characteristics of the spectral signatures for the different surface elements of particular interest;
- avoid atmospheric absorption bands, or wavelength regions within which the atmosphere is most prone to absorb the incident and surface surface-leaving radiant flux as it propagates toward (radiance) and away from (irradiance) the surface.

The dramatic differential between red (0.63 to 0.69 um on TM) and near-infrared (0.76 to 0.90 um) reflectance seen in Figure 5 is a well recognized spectral feature for vegetation. Most sensors sample in these two wavelength bands. For an example, go back to red edge. "Vegetation Indices" are designed to capitalize on the information contained in reflectance measurements made in these portions of the electromagnetic spectrum to indicate the abundance or physiological characteristics of the vegetation on the surface.

An important consideration in sensor design is balancing the objectives of keeping the sampled spectral bands narrow, while maintaining a high signal/noise ratio. The narrower the wavelength band, the less total radiant

energy will be incident upon the detector element. This is because a smaller "slice" of the total radiant flux is being sampled. As a result, the strength of the *signal* will be reduced relative to the magnitude of the background *noise* of the sensor. In order to maintain high image quality, the signal/noise ratio must be kept large.

Electromagnetic Radiation (EMR)
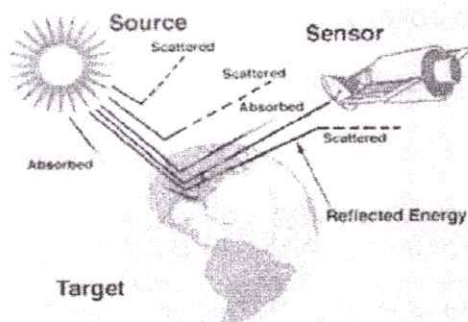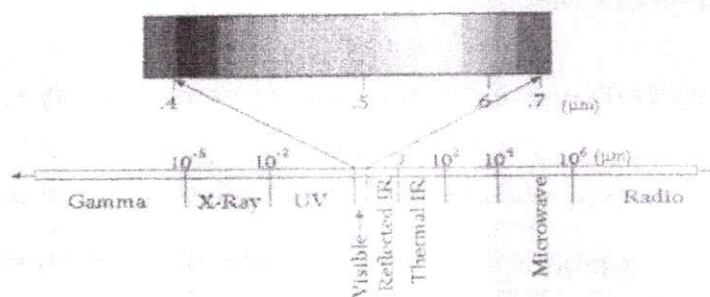
- Number of spectral bands (red, green, blue, NIR,Mid-IR, thermal, etc.)
- Width of each band
- Certain spectral bands (or combinations) are good for identifying specific ground features
- Panchromatic – 1 band (B&W)
- Color – 3 bands (RGB)
- Multispectral – 4+ bands (e.g. RGBNIR)
- Hyperspectral – hundreds of bands
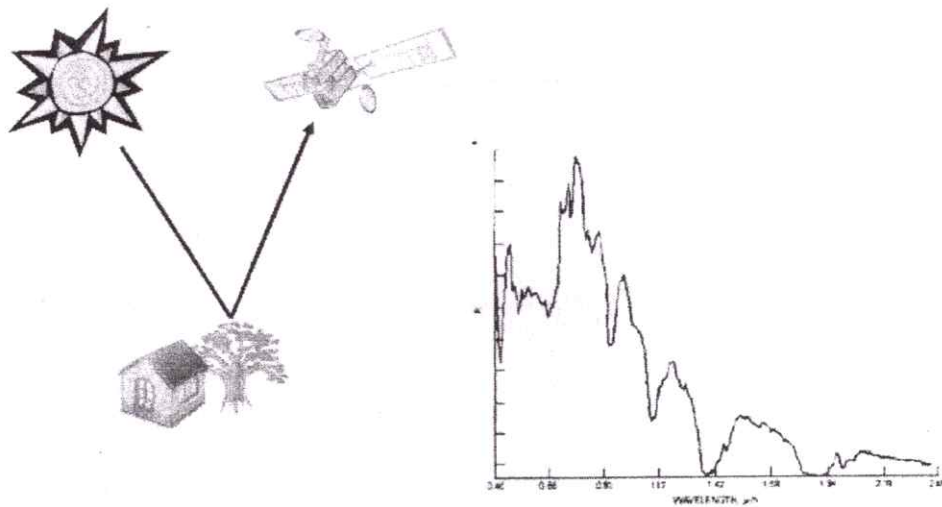
Spectral Response Curve

3. TEMPORAL RESOLUTION

Temporal resolution describes the number of times an object is sampled or how often data are obtained for the same area. The absolute temporal resolution of a remote sensing system to image the same area at the same viewing angle a second time is equal to the **repeat cycle** of a satellite.

The repeat cycle of a near polar orbiting satellite is usually several days, eg., for IRS-1C and Resourcesat-2 it is 24 days, and for Landsat it is 18 days. However due to the off-nadir viewing capabilities of the sensors and the sidelap of the satellite swaths in the adjacent orbits the actual revisit period is in general less than the repeat cycle.

The actual temporal resolution of a sensor therefore depends on a variety of factors, including the satellite/sensor capabilities, the swath overlap, and latitude. Because of some degree of overlap in the imaging swaths of the adjacent orbits, more frequent imaging of some of the areas is possible. Fig

shows the schematic of the image swath sidelap in a typical near polar orbital satellite.
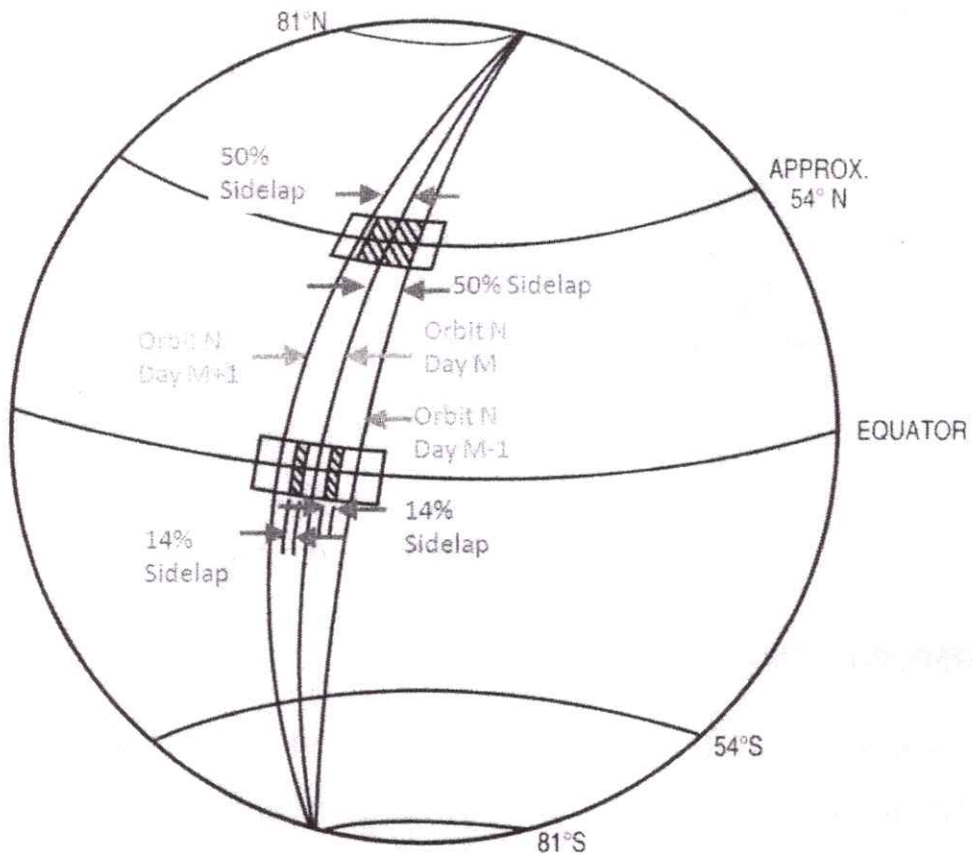
Sidelap In A Typical Near Polar Satellite Orbit

From Fig.3it can be seen that the sidelap increases with latitude. Towards the polar region, satellite orbits come closer to each other compared to the equatorial regions. Therefore for the polar region the sidelap is more. Therefore more frequent images are available for the polar region. In addition to the sidelap, more frequent imaging of any particular area of interest is achieved in some of the satellites by pointing their sensors to image the area of interest between different satellite passes. This is referred as the off-nadir viewing capability.

For example: using pointable optics, sampling frequency as high as once in 1-3 days are achieved for IKONOS, whereas the repeat cycle of the satellite is 14 days.

Images of the same area of the Earth's surface at different periods of time show the variation in the spectral characteristics of different features or areas over time. Such multi-temporal data is essential for the following studies.

• Land use/ land cove classification

• Temporal variation in land use / land cover

• Monitoring of a dynamic event like

– Cyclone

– Flood

– Volcano

– Earthquake

Flood studies: Satellite images before and after the flood event help to identify the aerial extent of the flood during the progress and recession of a flood event. The Great Flood of 1993 or otherwise known as the Great Mississippi and Missouri Rivers Flood of 1993, occurred from April and October 1993 along the Mississippi and Missouri rivers and their tributaries. The flood was devastating affecting around $15 billion and was one of the worst such disasters occurring in United States. Fig. shows the landsat TM images taken during a normal period and during the great flood of 1993. Comparison of the two images helps to identify the inundated areas during the flood.
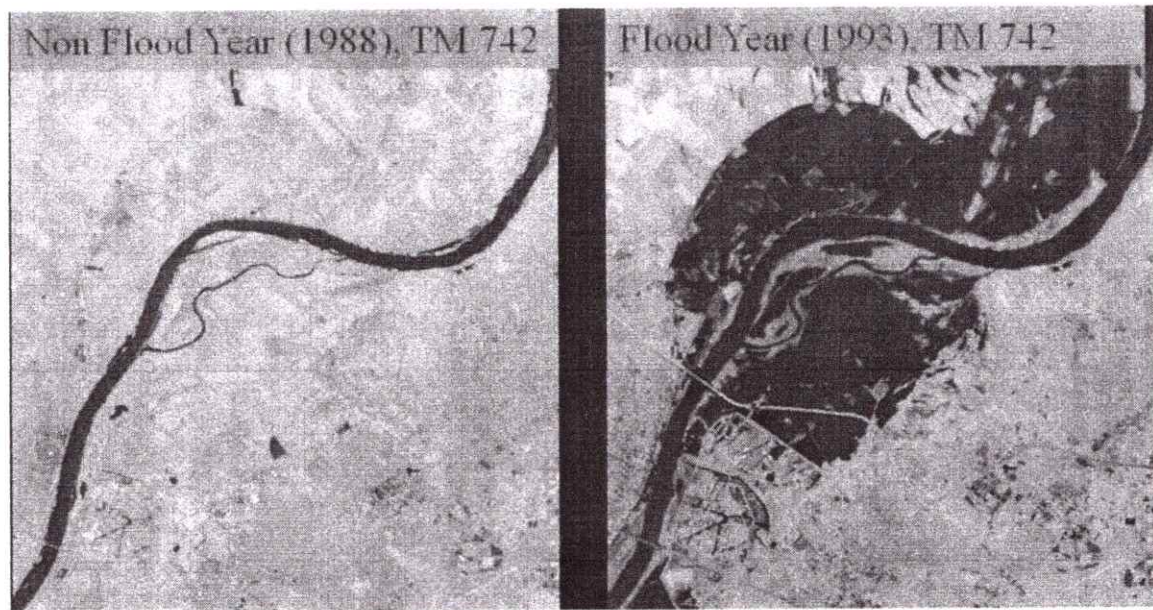
Landsat TM images of the Mississipi River during non-flood period and during the great flood of 1993

Land use/ land cover classification: Temporal variation in the spectral signature is valuable in land use/ land cover classification. Comparing multi-temporal images, the presence of features over time can be identified, and this is widely adopted for classifying various types of crops / vegetation. For example, during the growing season, the vegetation characteristics change continuously. Using multi-temporal images it is possible to monitor such changes and thus the crop duration and crop growth stage can be identified, which can be used to classify the crop types viz., perennial crops, long or short duration crops.

Fig. 6 shows the MODIS data product for the Krishna River Basin in different months in 2001. Images of different months of the year help to differentiate the forest areas, perennial crops and short duration crops.
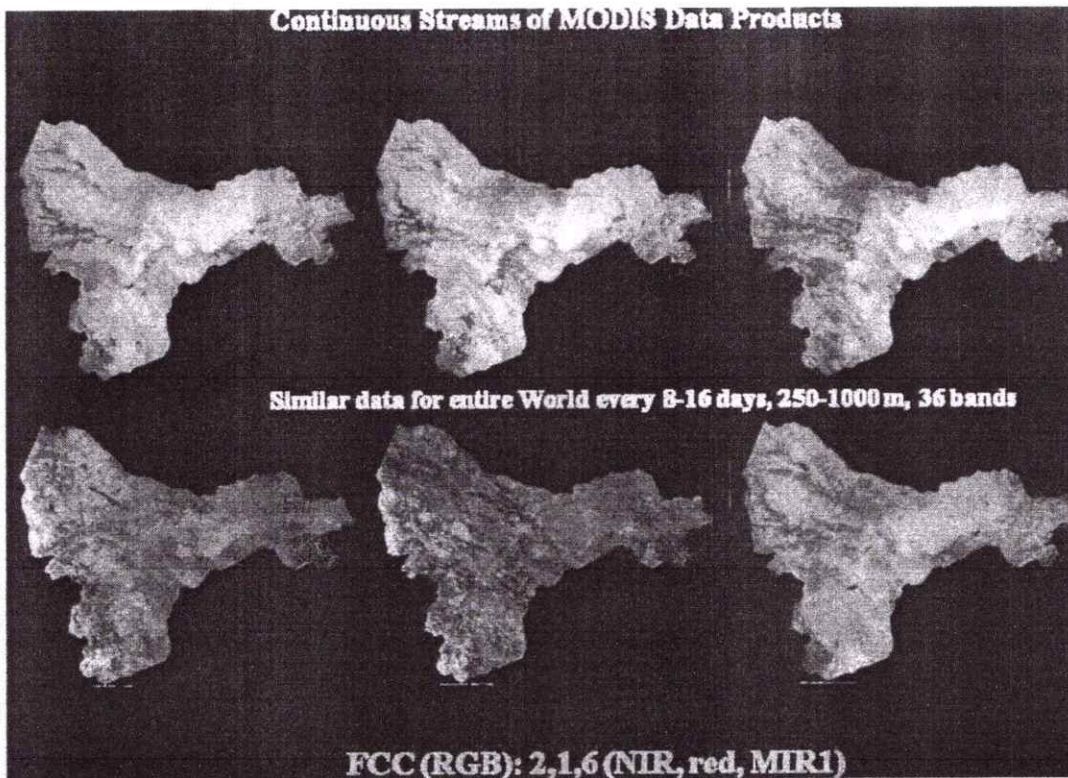
False Color Composites (FCC) of the Krishna River Basin generated from the MODIS data for different months in 2001.

4. RADIOMETRIC RESOLUTION

Radiometric resolution of a sensor is a measure of how many grey levels are measured between pure black (no reflectance) to pure white. In other words, radiometric resolution represents the sensitivity of the sensor to the magnitude of the electromagnetic energy. The finer the radiometric resolution of a sensor the more sensitive it is to detecting small differences in reflected or emitted energy or in other words the system can measure more number of grey levels. Radiometric resolution is measured in bits.

Each bit records an exponent of power 2 (e.g. 1 bit = 2^1 = 2). The maximum number of brightness levels available depends on the number of bits used in representing the recorded energy. For example, shows the radiometric resolution and the corresponding brightness levels available.

Radiometric resolution	Number of levels	Example
1 bit	2^1 – 2 levels	
7 bit	2^7 – 128 levels	IRS 1A & 1B
8 bit	2^8 – 256 levels	Landsat TM
11 bit	2^{11} – 2048 levels	NOAA-AVHRR

Radiometric Resolution and the Corresponding Brightness Levels

Thus, if a sensor used 11 bits to record the data, there would be 211=2048 digital values available, ranging from 0 to 2047. However, if only 8 bits were used, then only 28=256 values ranging from 0 to 255 would be available. Thus, the radiometric resolution would be much less. Image data are generally displayed in a range of grey tones, with black representing a digital number of 0 and white representing the maximum value (for example, 255 in 8-bit data). By comparing a 2-bit image with an 8-bit image, we can see that there is a large difference in the level of detail discernible depending on their radiometric resolutions. In an 8 bit system, black is measured as 0 and white is measured as 255. The variation between black to white is scaled into 256 classes ranging from 0 to 255. Similarly, 2048 levels are used in an 11 bit system as shown in Fig.

Finer the radiometric resolution, more the number of grey levels that the system can record and hence more details can be captured in the image.

Fig. shows the comparison of a 2-bit image (coarse resolution) with an 8-bit image (fine resolution), from which a large difference in the level of details is apparent depending on their radiometric resolutions.

As radiometric resolution increases, the degree of details and precision available will also increase. However, increased radiometric resolution may increase the data storage requirements.

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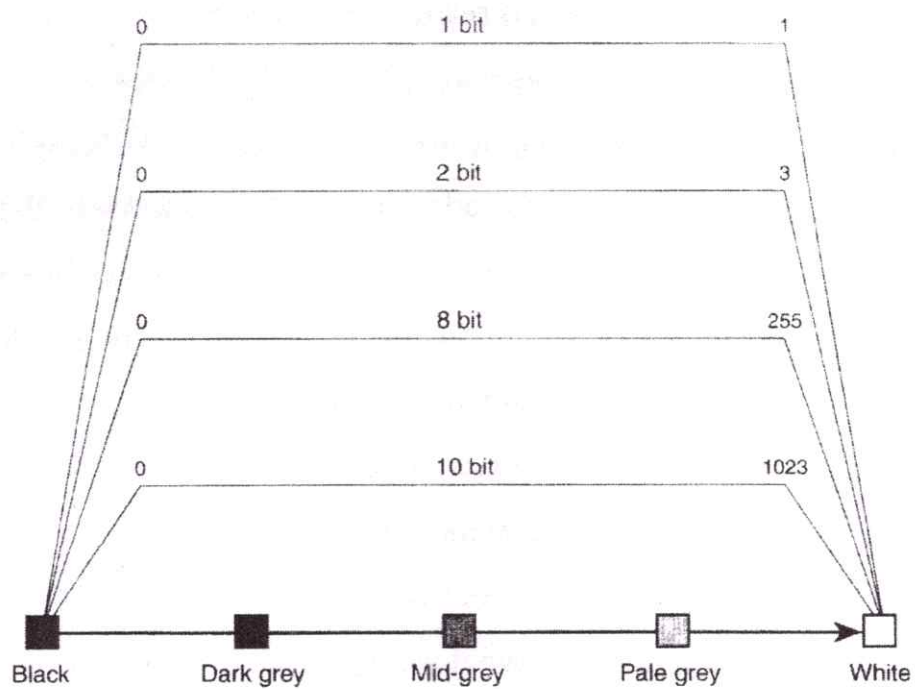Fig 1 Variation in the brightness levels recorded at different radiometric resolution

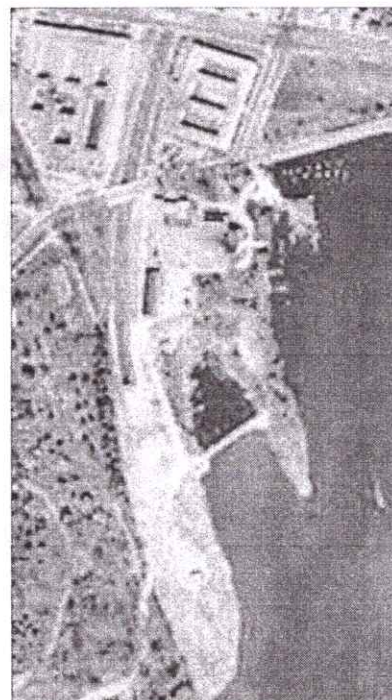2Bit Data (Coarse)   8Bit Data (Fine)

Fig.2 Comparison of a coarse resolution 2-bit image with a fine resolution 8-bit image

In an image, the energy received is recoded and represented using Digital Number (DN). The DN in an image may vary from 0 to a maximum value, depending up on the number of gray levels that the system can identify i.e., the radiometric resolution. Thus, in addition to the energy received, the DN for any pixel varies with the radiometric resolution. For the same amount of energy received, in a coarse resolution image (that can record less number of energy level) a lower value is assigned to the pixel compared to a fine resolution image (that can record more number of energy level). This is explained with the help of an example below.

Example: A RS system with a radiometric resolution of 6 bits assigns a DN of 28, 45 and 48 to three surfaces. What would be the equivalent DNs for the same surfaces if the measurements were taken with a 3 bit system?

The DNs recorded by the 3-bit system range from 0 to 7 and this range is equivalent to 0-63 for the 6 bit system.

0 1 2 3 4 5 6 7 (3 bit)

0 9 18 27 36 45 54 63 (6 bit)

Therefore a DN of 28 on the 6-bit system will be recorded as 3 in the 3-bit system. A 6-bit system could record the difference in the energy at levels 45 and 47, whereas in a 3-bit system both will be recorded as 5.

Therefore when two images are to be compared, they must be of same radiometric resolution.

REFERENCES :

1. https://www.unc.edu/~aaronm/RSCC/

2.www.edc.uri.edu/nrs/classes/NRS409/RS/Lectures/HowRemoteSensonWork.pdf

3. https://nptel.ac.in/courses/105108077/module2/lecture8.pdf

BIBLIOGRAPHY:

1. Gibson P.J (2000) "Introductory Remote Sensing- Principles and Concepts" Routledge, London.

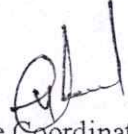# Karmaveer Bhaurao Patil College of Engineering, Satara

Academic Year: 2018-19 **Semester-II**

Name of course: STQA **Class: BE** **Course Code:**

Project Based Learning List

Sr.No.	Group ID	Members of the Group	Title of the project	Sign
1	G1	Mayuri Rajebhosale	IOT based home automation system	ZRW
2		Sayali phanase		Sph
3		Chaitrali Kulkarni		Ckul
4		Tejas Kurle		Tk
5	G2	Priyanka Duduskar.	Tracking and billing applicatn related to cyber security devices	Priyanka.
6		Shraddha Gaikwad.		Shss
7		Swapnali kachare.		ss Kachare
8		Shubhangi khude.		Khude.
9	G3	Shrutika Suresh Oswal	Erp System for Akashganga pvt.ltd	Oswal.s
10		Puja Suresh Navale		PNavale
11		Ankita Satyawan Gaikwad		Agaikwad
12	G4	Hrishikesh Shinde	Application for System management for KiteCart	Hshinde
13		Pratik Dhulekar		
14		Chetan Aware		Awn
15		Omkar Nandle		
16		Rohit Badekar		RSal
17	G5	Sayali Banse	Recycling for scrap Restoring	R.sayali.
18		Amruta Pawar		Amruta
19		Snehal Adake		Adake
20		Nirmala Devmane	Automatic service request application	Nllu.
21	G6	Minal gaikwad		Mcg
22		Dipti Salunkhe		dsalunkhe
23		Amruta kale		kale
24		Rakhee suryawanshi		RXS
25	G7	Himanshu Devi	Efficient wireless thermal Printing	Kdd
26		Simran Nadaf		Nadaf
27		Alisha Shaikh		A.V.shaik
28		Bhushan Kadam		BKm
29	G8	Yugandhara Bhosale	Online Shopping site for selling Spare pars of stone crusher	Ybhosale
30		Shruti Mahamuni		Shru
31		Partiksha Kanherkar		Rskn
32	G9	Pooja Rathod	Stastical Process control for quality assurance	Poja
33		Pranita Ahirekar		Prirta
34		Aishwarya Nilapwar		Aista
35	G10	Katkar Manali	Monitoring Tool & Development	
36		Zore Sunanda		Zorea
37		Ranaware Ashwini		Ranawar
38		Gandhi Pankaj		Pankaj
39	G11	Pratibha Pawar	Issue Tracking System	PSpawar
40		Prajakta salunkhe		Salunkhe.
41		Pradnya nalawade		Pnalawade

18

42			Sana momin		*Momin*
43	G12		Samruddhi Benkar	Management OF tracking of service calls related to devices	*Benkar*
44			Sunita Kanwalu		*Kanwalu*
45			Yogita Rananaware		*yrp*
46	G13		Apurva jadhav		*3pening*
47			Saifali mulla	Issue Tracking System	
48			Prathmesh dake		*B/-*
49			Gaurav kadam		
50			Mihir Sukhtankar		*MikulS*
51	G14		Rucha Doshi	comercial billing system of A.I.R.	*Doshi*
52			Poonam Nisalkar		*Nisal*
53			Sai Mandape		*Sai*
54	G15		Vishakha Gursale	Erp system for Akashganga pvt limited	*VGursale*
55			Aastika Chopra		*Achopra*
56	G16		Tabassum Mujawar	Superb Digital Broadband Pvt. Ltd.	*T.ayai*
57			Sabah Bagwan		*Sab*
58			Pratiksha Deshmukh		*Desh*
59			Neha Sartape		*NSO4*
60	G17		Sudhir ~~Bohar~~ Gaurav	Android application of Alcemaut	*Gaurav*
61			Shahrukh Khan		*SKhan*
62			Aarti gaikwad		*Anakaid*
63			Kajal Kadam		*Om*
64	G18		Kajal Shinde	cloud integrated document manage-ment system for ACME PADM sponsored by ACME Infovision, Satara	*KShinde*
65			Priyanka Nikam		*Nikam*
66			Shirin Shaikh		*Shaikh*
67			Snehal Kamble		*Kamble*

Course Coordinator
Mr.Vikas Chavan

Head of the Department
Dr. Shabina Sayyed

Rayat Shikshan Sanstha's

Karmaveer Bhaurao Patil College of Engineering, Satara

Academic Year: 2018-19   Semester-II

Name of the Program: Computer Science and Engineering   Name of the Course: Programming Laboratory IV

Name of the course Coordinator: Prof. Rasal S. A.   Date: 5/3/19

Project Based Learning based on Chapter 1,2,3,4,5

Sr.No	Project/Experiment based Chapter 1,2,3	Project assigned to (RN, Name, Sign)	Status of completion & Remarks
1	Implement following	1 Agnani Manish laxman complete 18/3/19	complete (CO8\16)
		2 Awale Rutuja Ramesh completed	completed (CO8\16)
		3 Bagwan Baba Imtiyaz completed Shows	(CO8\10)
		4 Barge Rohit Krishnat Completed	(CO8\10)

Person
- -name:String
- -address:String
- +Person(name:String,address:String)
- +getName():String
- +getAddress():String
- +setAddress(address:String):void
- +toString():String .... "Person[name=?, address=?]"

extends

Student
- -program:String
- -year:int
- -fee:double
- +Student(name:String,address:String, program:String,year:int,fee:double)
- +getProgram():String
- +setProgram(program:String):void
- +getYear():int
- +setYear(year:int):void
- +getFee():double
- +setfee(fee:double):void
- +toString():String .... "Student[Person[name=?, address=?], program=?,year=?, fee=?]"

Staff
- -school:String
- -pay:double
- +Staff(name:String,address:String, school:String,pay:double)
- +getSchool():String
- +setSchool(school:String):void
- +getPay():double
- +setPay(pay:double):void
- +toString():String .... "Staff[Person[name=?, address=?], school=?,pay=?]"

20

Sr.No	Project/Experiment based Chapter 1,2,3	Project assigned to (RN, Name, Sign)	Status of completion & Remarks

2

Player
```
sport: String
team: String
position: String
first: String
last: String
```

BaseballPlayer
```
atBats: int
hits: int
battingAverage(): double
```

Pitcher
```
innings: double
earnedRuns: int
earnedRunAverage(): double
```

SoccerPlayer
```
minutes: int
goals: int
goalsPerGame(): double
```

Goalie
```
goalsAllowed: int
averageGoalsAllowed: double
```

13/3/19

Project assigned to (RN, Name, Sign):
- 5 Bhilare Rohit A — completed (07/10)
- 16 Kaveri S. Bhosale — completed (10/10)
- 7 Sayali M. Bhosale — completed (02/10)
- 8 Sonali H. Bodake — completed (09/10)

3

Person
```
-name:String
-address:String
+Person(name:String,address:String)
+getName():String
+getAddress():String
+setAddress(address:String):void
+toString():String
```

Student
```
-numCourses:int
-courses:String[]
-grades:int[]
+Student(name:String, address:String)
+toString():String
+addcoursesGrade(course:String, grade:int):void
+printGrades():void
+getAverageGrade():double
```

Teacher
```
-numCourses:int
-courses:String[]
+Teacher(name:String, address:String)
+toString():String
+addCourse(course:String):boolean
+removeCourse(course:String):boolean
```

18/3/19

- 9 Chavan Pallavi S. — completed (05/10)
- 10 Chorage Akshay R. — completed (05/10)
- 11 Deshmukh Megha S. — completed (05/10)
- 12 Deshpande Chinmay M. — completed (05/10)

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Sr.No	Project/Experiment based Chapter 1,2,3	Project assigned to (RN, Name, Sign)	Status of completion & Remarks
4		13 Derale Manjiri Vinayak	Completed (09/16)
		14 Devi Apurva Hemant	completed (09/16)
		15 Pranav Pravin Dhumal	Completed (07/16)
		16 Doshi Saloni Mahesh	completed (08/16)
		18/3/16	
5		17 Prachi Santosh Doshi	completed (08/16)
		18 Ankita Dilip Gaikwad	completed (08/16)
		19 Gouri Shamrao Ghadage	completed (08/16)
		20 Parthmesh Nitin Ghadke	completed (09/16)
		18/3/16	

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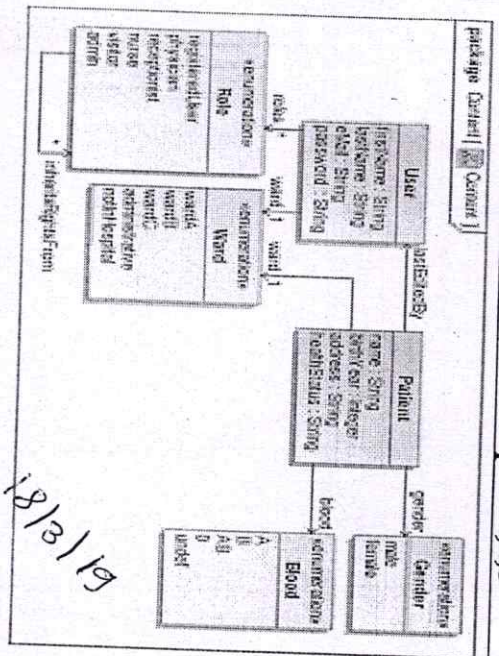| Sr.No	Project/Experiment based Chapter 1,2,3	Project assigned to (RN, Name, Sign)	Status of completion & Remarks
10	**TRAIN JOURNEY** — Starting_from : Text, Terminating : Text, Journey_time : Minutes; Set_start (in location : Text), Get_start (out location : Text), Get_Journey_time ( ) : Minutes. **FREIGHT** — Capacity : Tonnes, Carriages : Integer, Hazardous : Boolean; Set_hazardous(), Get_capacity() : Tonnes **PASSENGER** — First_class : Integer, Carriages : Integer, Catering : Boolean; get_first_class ( ) : Integer, Add_carriages (cr : Integer), In_service (srv : Boolean) 18/3/19	36 Kende Vaibhavi V 37 Khairnar Abhishek G 38 Korade Shruti D 39 Kshirsagar Mithali R	completed (08/10) completed (06/10) completed (07/10) completed (10/10)
11	**Employee** — -firstName : String, -lastName : String, -socialSecurityNumber : String **CommissionEmployee** — -grossSales : double, -commissionRate : double **HourlyEmployee** — -wage : double, -hours : double **SalariedEmployee** — -weeklySalary : double **BasePlusCommissionEmployee** — -baseSalary : double **<<interface>> Payable** — *getPaymentAmount() : double **Invoice** — -partNumber : String, -partDescription : String, -quantity : int, -pricePerItem : double 18/3/19	40 Kudale Snehal S. 41 Langade Amruta A. 42 Magar Pratiksha H. 43 Mane Ankita S.	completed (08/10) completed (07/10) completed (09/10) completed (09/10)

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Sr.No	Project/Experiment based Chapter 1,2,3	Project assigned to (RN, Name, Sign)	Status of completion & Remarks
12		44 Mane Gaurav S. Mane	completed (07/10)
		45 Mulani Aldmush S. Anki	completed (07/10)
		46 Nagpurkar Shruti D. Shruti	completed (09/10)
13		47 Palange Aishwarya V. Palange	completed (09/10)
		48 Patti Ankita	completed (08/10)
		49 Patil Snehal Subhash.	completed (08/10)
		50 Pawan Pranoti	completed (08/10)

18/3/19

18/3/19

24

Sr.No	Project/Experiment based Chapter 1,2,3	Project assigned to (RN, Name, Sign)	Status of completion & Remarks
14		51 Biswar Aakanksha Ankush	completed (08/10)
		52	
		53 Madtare Pranali M. Madtar completed (09/10)	
		54 Phalke Aarti A. completed (08/10)	
15	Sample Class Diagram 18/3/19 18/3/19	55 Snehal S. Pisal Pisal completed (08/10)	
		56 Anjali. S. Pisal, Apisal completed (09/10)	
		57 Abulash Priyani Aurora completed (08/10)	

25

Sr.No	Project/Experiment based Chapter 1,2,3	Project assigned to (RN, Name, Sign)	Status of completion & Remarks
16	 class Associations and Attributes example	58 Raut Pradnya Hanmant - Raut	completed (08/10)
		59 Raut Rohit Vaibhav (Rohit)	Partially (04/10)
		60 Salunkhe Ashruti Nitin	completed (07/10)
		61 Salunkhe Animesh C	partially (04/10)
17		62 Salunkhe Hrushikesh	completed (09/10)
		63 Siddhi M. Sawade	completed (05/10)
		64 Shelar Saurabh E Shelar	completed (09/10)
		65 Shelar Toupti A Shelar	completed (08/10)

18/3/19

18/3/19

Sr.No	Project/Experiment based Chapter 1,2,3	Project assigned to (RN, Name, Sign)	Status of completion & Remarks
18	18/3/19	66 Shinde Tejas S. *Tejas*	completed (09/10)
		67 Shinde Prajakta V. *Prajakta*	completed (09/10)
		68 Shinde Rutuja R. *Shinde*	completed (09/10)
		69 Shinde Sayali A. *Shinde*	completed (08/10)
19	14/3/19	70 Shitole Pooja R. *Shitole*	completed (08/10)
		71 Shivdas Rushikesh D. *Shivdas*	completed (07/10)
		72 Swami Gauri S. *Swami*	completed (08/10)

Sr.No	Project/Experiment based Chapter 1,2,3	Project assigned to (RN, Name, Sign)	Status of completion & Remarks
20	interface Parent – welcome; class ParentImp1 welcome from Parent (implements); class OverridingParent welcome from Parent (extends); interface Child – welcome (extends); Class ChildImp1 welcome from Child (implements); Class OverridingChild welcome from Parent (extends) — 18/3/19	73 - Tarage Sonali Shahaji (teacher's) 74 - Wadhwani Divya Satish (DSwaab) 75 - Yadav Aniket Anil	completed (08/10) completed (09/10) completed (07/10)
21	SalesOrder — AddOrderLine(), Register(), Grant(), Ship(), Invoice(), Cancel(); OrderState — AddOrderLine(), Register(), Grant(), Ship(), Invoice(), Cancel(); NewOrder — AddOrderLine(), Register(), Cancel(); Registered — AddOrderLine(), Grant(), Cancel(); Granted — AddOrderLine(), Ship(), Cancel(); Shipped — Invoice(); Invoiced; Cancelled — 17/3/19	76 - Yewale Jyoti Nivrutti 77 - Hasale Pradibha N 78 - Kadam Supriya bapurao	completed (08/10) completed (05/10) completed (09/10)

Sign of the Faculty _____ S A Pawar

HOD CSE Deptt.

28

Group 8

15/3/19

29	Jadhav Kamal		completed (09/10)
30			
31	Tavkar Suryadeep Ashok		completed (07/10)
32	Joshi Shalaka Bhushi		completed (09/10)

9

15/3/19

33	Joshi Aditya		completed (08/10)
34	Katkar Srushti		completed (09/10)
35	Kavade Pranav		completed (08/10)

Submitted,

Subject: - About permission to organize one month certificate course on Project Based Learning for B.E. Electronics class.

Sir,

    With reference to above subject, the Electronics Department is organizing one month certificate course on "Project Based Learning" for B.E. Electronics class, from 6/06/2018 to 24/6/2018

    Please give the permission to conduct the certificate course.

HOD

Electronics Engineering Department.

To,

Principal,

Karmaveer Bhaurao Patil
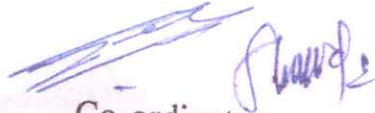
College of Engineering, Satara.

Rayat Shikshan Sanshta's
Karmaveer Bhaurao Patil College of Engineering, Satara
Department of Electronics Engineering

Office order:

Date: 04/06/18

All the Staff Members of the Department are hereby informed to follow the schedule and attend **regularly** the Sessions of Certificate Course in "Project Based Learning" as per given below.

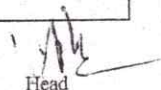| Sr. no	Date	Name of Staff
1.	5th – 9th June 2018	Mr. Jagdale S. J. & Mr. Bhosale S. S.
2.	11th -16Th June 2018	Mr. Nale P. M. & Mr. Pharande R. M.
3.	18th – 24th June 2018	Mr. Jagdale S. J. & Mr. Bhosale S. S. Mr. Nale P. M. & Mr. Pharande R. M.

Co-ordinator

Head

31

Rayat Shikshan Sanstha's

Karmaveer Bhaurao Patil College of Engineering, Satara

Department of Electronics Engineering

Certificate Course in Project Based Learning For Electronics Engineering

Course Timing:- 10.00 a.m. to 6.00 p.m.

Date	Time		Hours		Topic to be covered	Faculty
	From	To				
06-Jun-16	10:30 AM	11.00 AM	1		Inaguration	
	11.00 AM	12.30 PM	2		What is project, Theme, How to develop, Theories and practices	Prof. R.J. Devi
	1.30 PM	3.00 PM	2	Theory	Introduction of Electronics : Voltage, Current,Resistance, Capacitance,Inductance, KCL,KVL,Voltage and current devision laws,Superposition Theorem,Thevenins Theorem, Nodal And Mesh analysis, voltage source to current source and current source to voltage source conversion.	Prof. R.J. Devi
				Hands On	Tools required and how to use: Multimeter, Solder Gun, Screw Driver Set,Tester,Breadboard,Connecting Wires/Connectors, General purpose PCB,	Prof. R.J. Devi
	3.00 PM	5.30 PM	2	Hands On	Instruments handling study: Power Supply, Signal Generator, CRO/DSO, DMM, Spectrum Analyzer, choosing an appropriate measuring instrument / tool	Prof. R.J. Devi
07-Jun-16	10:30 AM	12.30 AM	2	Hands On	Resistor,Capacitor & Inductor: How a it works,Units,different Types, How to recognize and select it	Dr. Aldar D.S.
	1.30 PM	3.00 PM	2	Hands On	Different circuit implementations using Resistor,Capacitor & Inductor, Applications of Resistor capacitor & inductor	Dr. Aldar D.S.
	3.30 PM	5.30 PM		Hands On	understanding by implementing KCL,KVL,oltage and current devision laws,Theorems	Dr. Aldar D.S.
08-Jun-16	10:30 AM	12.30 AM	2	Hands On	Current limiting techniques : undestanding, compnetnts used for current limiter, implementation of current limiter cuircuts, roles of resister,capacitor and resistor in current limiting.	Dr. Aldar D.S.
	1.30 PM	3.00 PM	2	Hands On	Indtroduction of LEDs: single color,two color, RGB Color	Dr. Aldar D.S.
	3.30 PM	5.30 PM	2	Hands On	Design calculations and Implementation of LED lights using single color, single LED light, LED Array lights	Dr. Aldar D.S.
09-Jun-16	10:30 AM	12.30 AM	2		Design calculations and implementation of LED lights using two color and RGB	Dr. Aldar D.S.
				Theory	Diode: understastanding construction and working, different types of diode: Zener, Tunnel Diode, Varactor Diode, Shockley Diode, Photo-diode,PIN diode, applications of diodes: switch, clipper,clamper,voltage multiplier & doubler,Rectifier; Slection of appropriate diode	Dr. Aldar D.S.
	1.30 PM	3.00 PM	2	Hands On	Working with diode: testing diodes, designing different circuits of diode, developing Gates Using diode,	Dr. Aldar D.S.
	3.30 PM	5.30 PM	2	Hands On	Developing and testing of different circuits using zener,photo diode, PIN diode.	Dr. Aldar D.S.
10-Jun-16	10:30 AM	12.30 AM	2	Theory	Transistor: under standing working, characteristics and different circutal combination of transister such as switch, amplifier, current limiter, multivibrator, oscilator, testing of transistors	Dr. Aldar D.S.
	1.30 PM	3.00 PM	2	Hands On	NPN and PNP transister circuits design and testing such as switch amplifiers, Bulding audio amplifier with transisters	Dr. Aldar D.S.
	3.30 PM	5.30 PM	2	Hands On	transister circuits design and testing such as current limiter and Oscillators	Dr. Aldar D.S.
11-Jun-16	10:30 AM	12.30 AM	2	Theory	FET and MOSFET: under standing working, characteristics and different circutal combination, testing of FET, MOSFET	Dr. Aldar D.S.
	1.30 PM	3.00 PM	2	Hands On	P channel and N channel MOSFET Circuits design and testing: switch and amplifiers	Dr. Aldar D.S.
	3.30 PM	5.30 PM	2	Hands On	P channel and N channel MOSFET Circuits design and testing: amplifiers and oscillators	Dr. Aldar D.S.
13-Jun-16	10:30 AM	12.30 AM	2	Theory	Transformer, Relay, actuators , contactors, SSR	Mr.Mane S.S.
	1.30 PM	3.00 PM	2	Hands On	Designing and testing of application using 555	Prof. R.J. Devi
	3.30 PM	5.30 PM	2	Hands On	designing and testing circuits using IC 74HC4017 Decade counter, mux, demux, encoder, decoder IC,optoisolator	
14-Jun-16	10:30 AM	12.30 AM	2	Theory	Timer 555: introduction, working and different application design	Prof. R.J. Devi
	1.30 PM	3.00 PM	2	Hands On	Power devices: understanding and working of SCR: SCR BT169 ,TRIAC: Bt138 /bt139/bt151 ,DIAC/SDIAC,	Mrs.Thorat R.A.
	3.30 PM	5.30 PM	2	Hands On	Thyristor (SCR or TRIAC): Nxp Bt152-600R 13A or 2N6342A with moc3021, , Thyristor applications	Mrs.Thorat R.A.

Date	Start	End	Hrs	Type	Topic	Faculty
15-Jun-16	10:30 AM	12.30 AM	2	Hands On	MOSFET:IRF740,IGBT: Infineon Skw30N60Hs , Different applications using thyristers,mosfets,IGBTs.	Mrs.Thorat R.A.
	1.30 PM	3.00 PM	2	Hands On	Switches: Different types of Switches, CMOS Analog Switche, key pads and interfacing	Dr. Aldar D.S.
	3.30 PM	5.30 PM	2	Hands On	Interfacing of Motor and other electric, pneumatic and hydraulic actuating devices	Prof. R.J. Devi
16-Jun-16	10:30 AM	12.30 AM	2	Hands On	OPAMPs: overview, different circuits design using opamps	Dr. Aldar D.S.
	1.30 PM	3.00 PM	2	Hands On	OPAMPs: study of LM741, LM358,LM324,TL072,TL082 and other available OPA2604 and OPA2134	Dr. Aldar D.S.
	3.30 PM	5.30 PM	2	Hands On	Single supply opamp design and dual supply opamp design, Analogue comparator,audio amplifier, V to I,I to V	Dr. Aldar D.S.
17-Jun-16	10:30 AM	12.30 AM	2	Hands On	Signal Conditioning Design and testing , designing of 4-20 ma Current Source	Dr. Aldar D.S.
	1.30 PM	3.00 PM	2	Hands On	filters and Oscillators design using opamp	Dr. Aldar D.S.
	3.30 PM	5.30 PM	2	Hands On	Circuit Design: Current, Power Calculation, Heat Sink and Designing a power supply	Prof. R.J. Devi
18-Jun-16	10:30 AM	12.30 AM	2	Hands On	Drawing a circuit schematic and Circuit simulation, parameters setting	Dr. Aldar D.S.
	1.30 PM	3.00 PM	2	Hands On	TINA: circuit simulation using TINA and building the circuit on breadboard and testing of it.	Dr. Aldar D.S.
	3.30 PM	5.30 PM	2	Hands On	ORCAD: Circuit simulation using ORCAD and building the circuit on breadboard and testing of it.	Mr.Bhandare N.D.
20-Jun-16	10:30 AM	12.30 AM	2	Theory	MULTISIM: Circuit simulations and building the circuit on breadboard and testing of it.	Mr.Bhandare N.D.
	1.30 PM	3.00 PM	2	Hands On	Proteus: circuit simulationsnd building the circuit on breadboard and testing of it.	Mr.Bhandare N.D.
	3.30 PM	5.30 PM	2	Hands On	PCB Design Process: Layouts, study of aesthetics and convenience, Enclosures	Mr.Bhandare N.D.
21-Jun-16	10:30 AM	12.30 AM	2	Hands On	Implementation of schematics, layout and prining using DIPTrace and itching and soldering the components	Mr.Bhandare N.D.
	1.30 PM	3.00 PM	2	Hands On	Implementation of schematics, layout and prining using DIPTrace and itching and soldering the components	Mr.Bhandare N.D.
	3.30 PM	5.30 PM	2	Hands On	implementation of schematics, layout and prining using Eagle and itching and soldering the components	Mr.Bhandare N.D.
22-Jun-16	10:30 AM	12.30 AM	2	Hands On	implementation of schematics, layout and prining using Eagle and itching and soldering the components	Mr.Bhandare N.D.
	1.30 PM	3.00 PM	2	Hands On	Regulator: Different Regulator Ics, 78XX/79XX/LM317 and applications ,TVS: TVS Diode Selection Guide(AND8230), LDO: LP2985 and applications, SMPS LM3524D,	Prof. R.J. Devi
	3.30 PM	5.30 PM	2	Hands On	Powe supply design and testing	Dr. Aldar D.S.
23-Jun-16	10:30 AM	12.30 AM	2	Hands On	Circuit design and testing using TI Webench	Dr. Aldar D.S.
	1.30 PM	3.00 PM	2	Hands On	Sensors and Actuators:Temperature Sesnor: LM35,PT100/PT1000/Thermistor/thermocouple,Pressure Sensor: BMP180, Ic based pressure Sensors, proximity sensors,photoelectric sensor,Solenoids,	Dr. Aldar D.S.
	3.30 PM	5.30 PM	2	Hands On	signal conditioning for sensors and interface with ADC	Dr. Aldar D.S.
24-Jun-16	10:30 AM	12.30 AM	2	Thoery	Different types of DC motor and Controlling of DC motors,	Mr.Mane S.S.
	1.30 PM	3.00 PM	2	Hands On	Stepper Motors: Different type of Stepper motors and Working with Stepper motors, Survo Motors: : Different survo motors	Mr.Mane S.S.
	3.30 PM	5.30 PM	2	Thoery	Different AC Motors	Mr.Mane S.S.
25-Jun-16	10:30 AM	12.30 AM	2	Hands On	Embedded C insight	Prof. R.J. Devi
	1.30 PM	3.00 PM	2	Hands On	Microcontrollers:8051,ATMEGA328,ATMEGA16,PIC16/18/DSPIC	Prof. R.J. Devi
	3.30 PM	5.30 PM	2	Hands On	ARMLPC2148/ARM2368,MSP430,TIVA C, Arduino,	Prof. R.J. Devi
26-Jun-16	10:30 AM	12.30 AM	2	Hands On	Raspberry Pi, BeagleBone, ATTINY, PICAXE	Prof. R.J. Devi
	1.30 PM	3.00 PM	2	Hands On	RTC DS1307	Prof. R.J. Devi
	3.30 PM	5.30 PM	2	Hands On	Understanding requirements and selection of development board.	Prof. R.J. Devi
27-Jun-16	10:30 AM	12.30 AM	2	Hands On	Software design	Prof. R.J. Devi
	1.30 PM	3.00 PM	2	Hands On	KEIL,MPLAB,AVR Studio,IAR Embedded Workbench, CCS, Energia, Arduino, Mentor Graphic toolchain	Prof. R.J. Devi/Mr.Bhandare N.D.
	3.30 PM	5.30 PM	2	Hands On	ADC with example chips:	Prof. R.J. Devi
28-Jun-16	10:30 AM	12.30 AM	2	Hands On	ADS1115 16-Bit ADC, ADS1220 24-bit.	Prof. R.J. Devi
	1.30 PM	3.00 PM	2	Hands On	DAC MAP4925/MCP4921	Prof. R.J. Devi
	3.30 PM	5.30 PM	2	Hands On	Wired and wireless communication: Bluetooth, Zigbee, RF transmitter receiver, Wifi, Capsense, Ethernet, GSM, GPS, Infrared, RFID, ultrasonic,I2C, SPI, UART, I2S, CAN, USB, DMA,	Prof. R.J. Devi
	10:30 AM	12.30 AM	2	Hands On	Internet Of Things (IOT) : ThingSpeak, Temboo, IBM bluemix	Dr. Aldar D.S.
	1.30 PM	3.00 PM	2	Hands On	Android App development for Bluetooth and WiFI	

29-Jun-16	3.30 PM	5.30 PM	2		Hands On	Antenna Design: HFSS/CST Studio/IE3D	Expert from other institute
	5.30 PM	6.30 PM	1		Hands On	Some Design Examples, case study understanding stages of project work	Prof. R.J. Devi
30-Jun-16	10:30 AM	12.30 AM	2		Thoery	Study of system requirements, Devising specifications, Reviewing other systems (Reviewing papers) Preparing a block schematic, inter block specifications, Devising a circuit, Design, Schematic, simulation, results, PCB, Circuit fabrication, cold and hot testing, Software development, commissioning of project.	Prof. R.J. Devi
	1.30 PM	3.00 PM	2		Hands On	Preparing Project synopsis format,Planning and scheduling the project, Project report format	Prof. R.J. Devi
	3.30 PM	5.30 PM	2			Objective test of 100 marks Valedictory	
	Total					138	

Coordinator
Dr.Sangle S.M.

Head
Electronics Engg.
Department

Karmaveer Bhaurao Patil College of Engineering, Satara

Department of Electronics Engineering

Certificate Course in Project Based Learning For Electronics Engineering
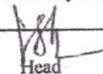
Course Timing:- 10.00 a.m. to 6.00 p.m.

Date	Th./Pr.	Topic to be covered	Duration (In hrs.)	Resource Person
		Inauguration at 9.30 a.m.		
5-Jun-18	Theory	What is project, Importance of project for building future, Theme, problem identification, How to develop, Theories and practices, Selection of Project, Literature survey and its importance, Steps in execution, Project Planning and work schedule, Synopsys format and writing, Daily Log Book, Monthly presentation and progress report, Seminar project I, Project report format and writing,	3	Prof. R.J. Devi,
		Introduction of Electronics : Voltage, Current, Resistance, Capacitance, Inductance, KCL, KVL, Voltage and current devision laws, Superposition Theorem, Thevenins Theorem, Nodal And Mesh analysis, voltage source to current source and current source to voltage source conversion.	4	Prof. R.J. Devi
6-Jun-18	Hands On	Tools required and how to use: Multimeter, Solder Gun, Screw Driver Set, Tester, Breadboard, Connecting Wires/Connectors, General purpose PCB,	3	Mane S S
	Hands On	Instruments handling study: Power Supply, Signal Generator, CRO/DSO, DMM, Spectrum Analyzer, choosing an appropriate measuring instrument / tool	3	Nanaware J D
7-Jun-18	Hands On	Resistor, Capacitor & Inductor: How a it works, Units, different Types, How to recognize and select it. Different circuit implementations using Resistor, Capacitor & Inductor, Applications of Resistor capacitor & inductor,	4	Dr. Aldar D S
	Hands On	understanding by implementing KCL, KVL, voltage and current devision laws, Theorems	2	Dr. Aldar D S
8-Jun-18	Hands On	Current limiting techniques : undestanding, compnetnts used for current limiter, implementation of current limiter cuircuts, roles of resister, capacitor and resistor in current limiting.	6	Dr. Aldar D S
9-Jun-18	Hands On	Indtroduction of LEDs: single color, two color, RGB Color, Design calculations and implementation of LED lights using single color, single LED light, LED Array lights, Design calculations and implementation of LED lights using two color and RGB	6	Dr. Aldar D S
11-Jun-18	Theory	Diode: understastanding construction and working, different types of diode: Zener, Tunnel Diode, Varactor Diode, Shockley Diode, Photo-diode, PIN diode, applications of diodes: switch, clipper, clamper, voltage multiplier & doubler, Rectifier; Slection of appropriate diode	3	Mrs. Mane S V
	Hands On	Working with diode: testing diodes, designing different circuits of diode, developing Gates Using diode, Developing and testing of different circuits using zener, photo diode.	3	Mrs. Mane S V
12-Jun-18	Theory	Transistor: under standing working, characteristics and different circutal combination of transister such as switch, amplifier, current limiter, multivibrator, oscilator, testing of transistors	3	Mrs. Mane S V
	Hands On	NPN and PNP transister circuits design and testing such as switch amplifiers, Bulding audio amplifier with transisters, transister circuits design and testing such as current limiter and Oscillators	3	Mrs. Mane S V
13-Jun-18	Hands On	FET and MOSFET: under standing working, characteristics and different circutal combination, testing of FET, MOSFET, P channel and N channel MOSFET Circuits design and testing: switch and amplifiers, P channel and N channel MOSFET Circuits design and testing: amplifiers and oscillators	4	Mrs. Mane S V
	Theory	Transformer, Relay, actuators, contactors, SSR	3	Mane S S
14-Jun-18	Hands On	Timer 555: introduction, working and different application design, Designing and testing of application using 555, designing and testing circuits using IC 74HC4017 Decade counter, mux, demux, encoder, decoder IC, optoisolator	4	Shivdas S S Nanaware J D
	Hands On	Power devices: understanding and working of SCR: SCR BT169, TRIAC: Bt138 /bt139/bt151, DIAC/SDIAC, Thyristor (SCR or TRIAC): Nxp Bt152-600R 13A or 2N6342A with moc3021, Thyristor applications	3	Dr. Kanase Y K
16-Jun-18	Hands On	MOSFET:IRF740, IGBT: Infineon Skw30N60Hs, Different applications using thyristers, mosfets, IGBTs.	3	Thorat R A
	Hands On	Switches: Different types of Switches, CMOS Analog Switche, key pads and interfacing	3	Thorat R A
18-Jun-18	Hands On	OPAMPs: overview, different circuits design using opamps, OPAMPs: study of LM741, LM358, LM324, TL072, TL082 and other available OPA2604 and OPA2134	4	Dr. Godbole B B
	Hands On	Single supply opamp design and dual supply opamp design, Analogue comparator, audio amplifier, V to I, I to V	3	Shivdas S S
19-Jun-18	Hands On	Signal Conditioning Design and testing, designing of 4-20 ma Current Source, filters and Oscillators design using opamp, Circuit Design: Current, Power Calculation, Heat Sink and Designing a power supply	4	Devi R J
	Hands On	Drawing a circuit schematic and Circuit simulation, parameters setting, TINA: circuit simulation using TINA and building the circuit on breadboard and testing of it.	3	Dr. Aldar D S
20-Jun-18	Hands On	PCB Design Process: Layouts, study of aesthetics and convenience, Enclosures	3	Bhandare N D
	Hands On	Implementation of schematics, layout and prining using DIPTrace and itching and soldering the components	3	Bhandare N D
21-Jun-18	Hands On	Regulator: Different Regulator Ics, 78XX/79XX/LM317 and applications, TVS: TVS Diode Selection Guide(AND8230), LDO: LP2985 and applications, SMPS LM3524D, Powe supply design and testing, Circuit design using TI Webench, some other utilities for filter design	4	Devi R J Dr. Aldar D S
	Hands On	Sensors and Actuators: Temperature Sesnor: LM35, PT100/PT1000/Thermistor/thermocouple, Pressure Sensor: BMP180, Ic based pressure Sensors, proximity sensors, photoelectric sensor, Solenoids, Signal conditioning for sensors and interfacing with ADC	3	Devi R J
22-Jun-18	Hands On	Embedded C insight	3	Bhandare N D
	Hands On	Microcontrollers:TIVAC123, Arduino	4	Bhandare N D & Lokhande S S
	Hands On	Microcontrollers:TIVAC123, Arduino	3	
23-Jun-18	Hands On	Wired and wireless communication: Bluetooth, Zigbee, RF transmitter receiver, Wifi, Capsense, Ethernet, GSM, GPS, Infrared, RFID, ultrasonic, I2C, SPI, UART, I2S, CAN, USB, DMA	4	Dr. Aldar D S

	Hands On	Linux installation, fundamentals, basic concepts of networking	4	Guest Lecture
	Hands On	Internet Of Things (IOT) : ThingSpeak/ Temboo /IBM bluemix demonstation	2	
24-Jan-18	Hands On	Android App development for Bluetooth and WiFI demonstartion and	1	
		Objective test of 100 marks	2	
		Valedictory function		
		Total hrs	113	

Note: All the Staff Memebers are informed to be present throughout the course and carry out the duties assigned by respective faculty members from time to time.

Coordinator

Head
Electronics Engg. Department

Rayat Shikshan Sanstha's

Karmaveer Bhaurao Patil College of Engineering, Satara

Electronics Engineering Department

Certificate course in "Project Based Learning"

ATTENDANCE SHEET

Sr. No.	Name of Participants	Date:- 14/06/18 Session I	Session II	Session III	Date:- 15/06/18 Session I	Session II	Session III	Date:- 18/06/2018 Session I	Session II	Session III	Date:- 19/06/18 Session I	Session II	Session III
1.	GOLSAR BHAGYASHREE VITTHAL												
2.	GHADGE PRATIKSHA BHAGYODAY												
3.	DESHMUKH MRUNAL KRISHNATH												
4.	SHINDE ANKITA VILAS												
5.	PORE KALYANI DHANAJI												
6.	SHIGADE SHITAL SHANKAR												
7.	SAWANT BHAGYASHREE ASHOK												
8.	BARGE MADHURI CHANDRAKANT												
9.	NALAWADE RAJASHRI MOHAN												
10.	NIKAM RUTUJA JAYAWANT												
11.	GHADGE NIKITA DILIP												
12.	LAD ASHWINI LAXMAN												
13.	CHAVAN MEGHA RANGRAO												
14.	CHAVAN ASHWINI ANIL												
15.	BHOSALE ANURADHA GOPAL												
16.	PAWAR BABLI NAMDEV												
17.	KADAM DIKSHA PRAKASH												
18.	PHADTARE NIKHITA RAJARAM												
19.	KALBHOR PRANAV PRATAPSINHA												
20.	SALUNKHE ROHAN SUNIL												
21.	OWAL SUPRIYA DEEPAK												
22.	CHIVALE AMRUTA UTTAM												
23.	GAIKWAD TRUPTI NITIN												
24.	GARGE SAKSHI ABHIJEET												
25.	PATIL SANJIVANEE SANJAY												

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Rayat Shikshan Sanstha's

Karmaveer Bhaurao Patil College of Engineering, Satara

Electronics Engineering Department

Certificate course in "Project Based Learning "

ATTENDANCE SHEET

Sr. No.	Name of Participants	Date:- 14/06/18 Session I	Session II	Session III	Date:- 15-06-18 Session I	Session II	Session III	Date:- 8-6-18 Session I	Session II	Session III	Date:- 19/06/18 Session I	Session II	Session III
26.	JADHAV NIKITA UDAY												
27.	DISALE MAYURI GORKHNATH												
28.	SHINDE JYOTI BALKRUSHNA												
29.	PHADTARE MADHURI												
30.	CHALKE RIDDHI DATTATRAY												
31.	JADHAV ASMITA PRATAP												
32.	PAWAR RUTUJA NANA												
33.	PAWAR VAISHNAVI MARUTI												
34.	DESAI SWAPNALI SANTOSH												
35.	JAWALE PRERANA SHAHU												
36.	JADHAV POOJA VASANT												
37.	KHARADE PRAJAKTA KASHINATH												
38.	CHAVAN ANJALI SANTAJI												
39.	DHAGE VIJAY DATTATRYA												
40.	DIXIT PRAJAKTA DEJANANJAY												
41.	KHAJURE DHANASHREE TUSHAR												
42.	SHINDE POOJA PRAKASH												
43.	GUJAR SAPNA BHARAT												
44.	DIXIT SNEHAL ANIL												
45.	JAIN PRIYA SATISH												
46.	KARCHE MRUNAL LAXMAN												
47.	INGAWALE PRIYANKA ANANDRAO												
48.	KAZI ARBAZ CHIRAKUDDIN												
49.	DESHMUKH PRATIK SHASHIKANT												
50.	MANE ASHWINI GORAKH												

Rayat Shikshan Sanstha's

Karmaveer Bhaurao Patil College of Engineering, Satara

Electronics Engineering Department

Certificate course in "Project Based Learning"

ATTENDANCE SHEET

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Sr. No.	Name of Participants	Date:- 20/6/18			Date:- 21/6/18			Date:- 22/6/18			Date:- 23/6/18		
		Session I	Session II	Session III	Session I	Session II	Session III	Session I	Session II	Session III	Session I	Session II	Session III
1.	GOLSAR BHAGYASHREE VITTHAL												
2.	GHADGE PRATIKSHA BHAGYODAY												
3.	DESHMUKH MRUNALLKRISHNATW												
4.	SHINDE ANKITA VILAS												
5.	PORE KALYANI DHANAJI												
6.	SHIGADE SHITAL SHANKAR												
7.	SAWANT BHAGYASHREE ASHOK												
8.	BARGE MADHURI CHANDRAKANT												
9.	NALAWADE RAJASHRI MOHAN												
10.	NIKAM RUTUJA JAYAWANT												
11.	GHADGE NIKITA DILIP												
12.	LAD ASHWINI LAXMAN												
13.	CHAVAN MEGHA RANGRAO												
14.	CHAVAN ASHWINI ANIL												
15.	BHOSALE ANURADHA GOPAL												
16.	PAWAR BABLI NAMDEV												
17.	KADAM DIKSHA PRAKASH												
18.	PHADTARE NIKHITA RAJARAM												
19.	KALBHOR PRANAV PRATAPSINHA												
20.	SALUNKHE ROHAN SUNIL												
21.	OWAL SUPRIYA DEEPAK												
22.	CHIVALE AMRUTA UTTAM												
23.	GAIKWAD TRUPTI NITIN												
24.	GARGE SAKSHI ABHIJEET												
25.	PATIL SANJIVANEE SANJAY												

Rayat Shikshan Sanstha's
Karmaveer Bhaurao Patil College of Engineering, Satara
Electronics Engineering Department
Certificate course in "Project Based Learning"
ATTENDANCE SHEET

Sr.	Name of Participants	Date:- 14/06/18			Date:- 15/06/18			Date: 18/06/18			Date:- 19/06/18		
		Session I	Session II	Session III	Session I	Session II	Session III	Session I	Session II	Session III	Session I	Session II	Session III
51.	CHAVAN MAYURI SURYAKANT	m.s.chavan	m.s.chavan	m.s.chavan	m.s.chavan	m.s.chavan	m.s.chavan				m.s.chavan	m.s.chavan	m.s.chavan
52.	PHADTARE SNEHAL D.												
53.	SAWANT PRAJAKTA DATTATRAYA	Bswat	Bswat	Bswat	Bswat	Bswat	Bswat	Bswat	Bswat	Bswat	Bswat	Bswat	Bswat
54.	PHADATARE ANIKET ASHOK	Radatare	Radatare	Radatare	Radatare	Radatare	Radatare	Ars					
55.	UMBARDAND SHIVPRASAD GAJANAN	Shiv	Shiv	Shiv	Shiv	Shiv	Shiv	Shiv	Shiv	Shiv	Shiv	Shiv	Shiv
56.	KOLEKAR MINAL HANMANT	mhk	mhk	mhk	mhk	mhk	mhk	mhk	mhk	mhk	mhk	mhk	mhk
57.	Lokhende Pooja D.	Pohranod	Pohranod	Pohranod	Pohranod	Pohranod	Apri	Apri			Pohranod	Pohranod	Pohranod
58.	Goye Namrata S.	Ngos	Ngos	Ngos	Ngos	Ngos	Ngos	Ngos			Ngos	Ngos	Ngos
59.	More Ankit O.	A.R.M	A.R.M	A.R.M	A.R.M	A.R.M	A.R.M	A.R.M			A.R.M	A.R.M	A.R.M
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Rayat Shikshan Sanstha's
Karmaveer Bhaurao Patil College of Engineering, Satara
Electronics Engineering Department
Certificate course in "Project Based Learning "
ATTENDANCE SHEET

Sr. No.	Name of Participants	Date:- 20/6/18			Date:- 21/6/18			Date:- 22/6/18			Date:- 23/6/18		
		Session I	Session II	Session III	Session I	Session II	Session III	Session I	Session II	Session III	Session I	Session II	Session III
26.	JADHAV NIKITA UDAY												
27.	DISALE MAYURI GORKHNATH												
28.	SHINDE JYOTI BALKRUSHNA												
29.	PHADTARE MADHURI												
30.	CHALKE RIDDHI DATTATRAY												
31.	JADHAV ASMITA PRATAP												
32.	PAWAR RUTUJA NANA												
33.	PAWAR VAISHNAVI MARUTI												
34.	DESAI SWAPNALI SANTOSH												
35.	JAWALE PRERANA SHAHU												
36.	JADHAV POOJA VASANT												
37.	KHARADE PRAJAKTA KASHINATH												
38.	CHAVAN ANJALI SANTAJI												
39.	DHAGE VIJAY DATTATRYA												
40.	DIXIT PRAJAKTA DHANANJAY												
41.	KHAJURE DHANASHREE TUSHAR												
42.	SHINDE POOJA PRAKASH												
43.	GUJAR SAPNA BHARAT												
44.	DIXIT SNEHAL ANIL												
45.	JAIN PRIYA SATISH												
46.	KARCHE MRUNAL LAXMAN												
47.	INGAWALE PRIYANKA ANANDRAO												
48.	KAZI ARBAZ CHIRAKUDDIN												
49.	DESHMUKH PRATIK SHASHIKANT												
50.	MANE ASHWINI GORAKH												

Rayat Shikshan Sanstha's

Karmaveer Bhaurao Patil College of Engineering, Satara

Electronics Engineering Department

Certificate course in "Project Based Learning "

ATTENDANCE SHEET

Sr.	Name of Participants	Date:- 20/6/18			Date:- 21/6/18			Date:			Date:-		
		Session I	Session II	Session III	Session I	Session II	Session III	Session I	Session II	Session III	Session I	Session II	Session III
51.	CHAVAN MAYURI SURYAKANT	M.Chavan	M.chavan	M.S.chavan	M.S.chavan	M.chavan	M.chavan	M.chavan	M.chavan	M.chavan	M.chavan	M.chavan	M.chavan
52.	PHADTARE SNEHAL D.	Snehal	Snehal	Snehal	Snehal	Snehal	Snehal	Snehal	Snehal	Snehal	Snehal	Snehal	Snehal
53.	SAWANT PRAJAKTA DATTATRAYA	Praju	Praju	Praju	Praju	Praju	Praju	Praju	Praju	Praju	Praju	Praju	Praju
54.	PHADATARE ANIKET ASHOK	Phadatare	Phadatare	Phadatare	Phadatare	Phadatare	Phadatare	Phadatare	Phadatare	Phadatare	Phadatare	Phadatare	Phadatare
55.	UMBARDAND SHIVPRASAD GAJANAN	Shiv	Shiv	Shiv	Shiv	Shiv	Shiv	Shiv	Shiv	Shiv	Shiv	Shiv	Shiv
56.	KOLEKAR MINAL HANMANT	MHK	MHK	MHK	MHK	MHK	MHK	MHK	MHK	MHK	MHK	MHK	MHK
57.	Iokhande Pooja Dattatray	lokhande	lokhande	lokhande	lokhande	lokhande	lokhande	lokhande	lokhande	lokhande	lokhande	lokhande	lokhande
58.	Mora Ankita P.	ARM	ARM	ARM	ARM	ARM	ARM	ARM	ARM	ARM	ARM	ARM	ARM
59.													

RAYAT SHIKSHAN SANSTHA'S

KARMAVEER BHAURAO PATIL COLLEGE OF ENGINEERING, SATARA

ELECTRONICS ENGINEERING DEPARTMENT

CERTIFICATE

This is to certify that

Mr/Ms/Mrs LAD Ashwini Laxman

has completed successfully Certificate course in

"Project Based Learning" *during 5th to 24th June 2018.*

Prof. J. D. Nanaware
Coordinator

Prof. V. S. Shingate
Head, Electronics Engineering Department

Dr. S. M. Sangale
Principal

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Rayat Shikshan Sanshta's

Karmaveer Bhaurao Patil College of Engineering, Satara

Electronics Engineering Department

Test on

Project Based Learning

Answer key

Q.1] A crystal diode utilises …………….. characteristic for rectification

1. reverse
2. forward.
3. forward or reverse
4. none of the above

Answer : 2

Q.2] A zener diode is used as ……………..

1. an amplifier
2. a voltage regulator.
3. a rectifier
4. a multivibrator

Answer : 2

Q.3] A 10 V power supply would use ………………….. as filter capacitor.

1. paper capacitor
2. mica capacitor
3. electrolytic capacitor.
4. air capacitor

Answer : 3

Q.4] A MOSFET can be operated with ……………..

1. negative gate voltage only
2. positive gate voltage only
3. positive as well as negative gate voltage.
4. none of the above

Answer : 3

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Karmaveer Bhaurao Patil College of Engineering, Satara

Q.5] For an integrating circuit to be effective , the RC product should be ………
the time period of the input wave

1. 5 times greater than
2. 5 times smaller than
3. Equal to
4. At least 10 times greater than.

Answer : 4

Q.6] An SCR combines the features of …………..
1. A rectifier and resistance
2. A rectifier and transistor.
3. A rectifier and capacitor
4. None of the above

Answer : 2

Q.7] We can control a.c. power in a load by connecting …………
1. Two SCRs in series
2. Two SCRs in parallel
3. Two SCRs in parallel opposition.
4. None of the above

Answer : 3

Q.8] The purpose of capacitors in a transistor amplifier is to ………
1. Protect the transistor
2. Cool the transistor
3. Couple or bypass a.c. component.
4. Provide biasing

Answer : 3

Q.9] The purpose of emitter capacitor (i.e. capacitor across R_E) is to ………
1. Avoid voltage gain drop.
2. Forward bias the emitter
3. Reduce noise in the amplifier
4. None of the above

Answer : 1

Q.10] If the input capacitor of a transistor amplifier is short-circuited, then………

Rayat Shikshan Sanshta's
Karmaveer Bhaurao Patil College of Engineering, Satara
Department of Electronics Engineering

Student Feedback Form

Academic Year: 2017-18   **Date: 24/06/2018**

Course Name: Certificate Course in "Project Based Learning"

Students are encouraged to use this form to provide feedback in matters relating to your experience during the course. Your feedback is valuable as it helps us develop and improve our student facilities and services. If you wish to express your opinion towards any aspect of the course, we encourage you to complete the information mentioned below.

Please Rate as follows:

(Rating: 5-Excellent, 4-Very Good, 3- Good, 2- Average, 1- Below Average)

Sr. No	Description	RJD	DSA	JDN	BBG	YKK	SSM	SVM	ANU	NDB	SSL
1	Syllabus coverage of the Faculty as prescribed.	5	5	4	5	4	5	5	4	5	5
2	Effectiveness of the Faculty in terms of Technical content	4	5	4	4	5	4	4	4	4	4
3	Faculty encouragement towards student participation and discussion.	5	5	5	5	5	5	4	5	4	4
4	Use of Non print teaching aids	4	5	5	5	4	4	4	5	4	4
5	Pace on which contents were covered	4	5	5	5	5	5	5	4	5	5
6	How do you rate the contents of the Course.	4	5	5	5	4	4	5	5	5	4

Any other suggestions: _____

_____

_____

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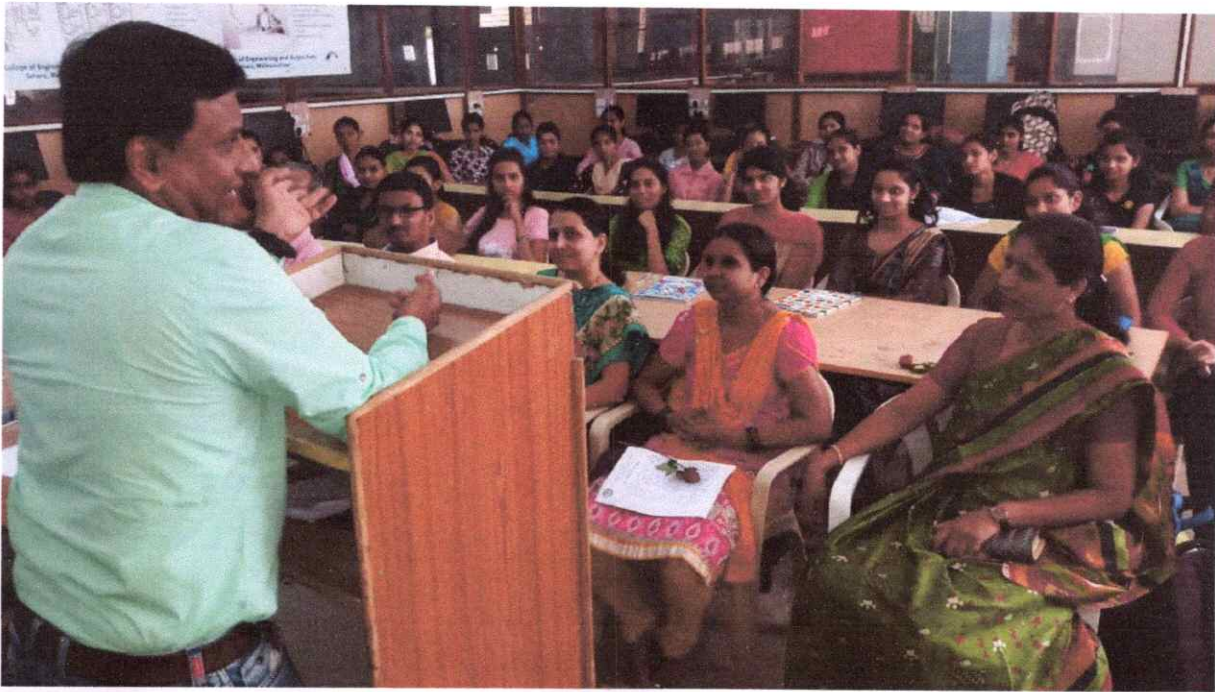
CERTIFICATE COURSE IN PROJECT BASED LEARNING 5th JUNE TO 24th JUNE 2018

CERTIFICATE COURSE IN PROJECT BASED LEARNING 5th JUNE TO 24th JUNE 2018

Rayat Shikshan Sanstha's
Karmaveer Bhaurao Patil College of Engineering, atara
Mechanical Engineering Department
Academic Year (2018-2019)
Project Based Learning Ativity

Course : Mechatronics

Program Code:

Course Code:

Class: B.E. Mechanical

Course Coordinator: Prof. Ms.shivdas R.K

Gr. No.	Name of the Student	Roll No.	Fabricated Mechatronics Simple Project	Objective	Outcome	Components Used
1	Nituraj More		Water Level Indicator	To make circuit for water level indicator	developed the water level indicator (Gauge) using. • Transistor: BC548 • Resistor: 330ohm • LED: Red, Green, Yellow • Buzzer	• Transistor: BC548 • Resistor: 330ohm • LED: Red, Green, Yellow • Buzzer• Battery: 9V • Zero PCB (Printed Circuit Board)
	AkashSawant					
	KiranJangam					
	SwapnilKarande					
2.	RavirajBaswant		2 LED flashers	To use IC 555 Timer in mechtronics circit	The IC 555 timer is used to determine the time of the 2 LED stays ON & OFF	• IC555 (Timer IC) • Resistor: 330ohm, 10kohm, 1kohm • Capacitor: 10uf, 0.01uf • LED • Battery: 9V • Zero PCB (Printed Circuit Board)
	GirishJagtap					
	Rajesh Shirke					
3.	Omkar Patil		IR sensor module (sensor application):	To Use IR sensor in circuit to prove its working principle	Made circuit proving application of IR sensor	• IR sensor module • Battery: 9V
	GhadageDhiraj					
	SirsatVikas					
	PankajKalbhor					
	Jadhav Ganesh(P)					
4.	WaghRohit A		DPDT switch application	To use DPDT switch in electric circuit	DC motor controlled in clockwise or anti-clockwise direction using a DPDT (Double Pole Double Throw) Switch.	• DC geared motor • DPDT (Double Pole Double Throw) switch • Battery: 9V
	YadavDhanaji S					
	Barge Mayur					
	KajleAkshay					
5	MullaSahilRajjak		Touch Sensor	To demonstrate application of touch sensor by making circuit	The touch sensor circuit is built with three components such as a resistor, a transistor and a light emitting diode.	• Transistor: BC547 • Resistor: 470 ohm • LED • Battery: 9V • Zero PCB (Printed Circuit Board)
	TarangeMadhav					
	KambleShrikant					
	Lad ShivamShankarrao					

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Sr. No.	Team Members	Project Title	Objective	Description	Components
6.	SuhelNadaf, Amar Kumbhar, OmkarRaut, Omkar Pol	Dark Activated LED	To prove working of LDR	Developed circuit that proves working of Light Dependent Resistors (LDR)	• Transistor: BC547 • Resistor: 330ohm, 100kohm • LDR (Light Dependent Resistor) • LED • Battery: 9V
7.	OmkarShinde, PranavPawar, AmeyKulkarni, HarshalMalawade	LED Chaser	To use IC 555 Timer in mechtronics circit	Developed LED Chaser circuit using IC 555 (Timer IC)	• IC 555 (Timer IC) • 4017 (Decade Counter IC) • Resistor: 470ohm, 10kohm • Potentiometer: 10kohm • Capacitor: 10uf • LED • Battery: 9V • Zero PCB (Printed Circuit Board)
8.	SurajKadam, OmkarKaranjkar, Prasad Mangarule, Akshay Patil	Water Level Controller	To use IC 555 Timer in mechtronics circit	Developed Water level controller circuit using IC 555 (Timer IC)	• IC 555 (Timer IC) • Transistor: BC548 • Resistor: 100ohm, 10kohm • Diode: 1N4007 • Relay: 12V • Adapter: 12V, 2A • Zero PCB (Printed Circuit Board)
9.	Akshay Kale, AkshayPilaware, Parthvi Patil, Dhananjay D., Sahil Patel(P)	DPDT switch application	To use DPDT switch in electric circuit	DC motor controlled in clockwise or anti-clockwise direction using a DPDT (Double Pole Double Throw) Switch.	• DC geared motor • DPDT (Double Pole Double Throw) switch • Battery: 9V
10.	ShivanjaliDhadame, Sarswatikore, AbhayaGaikwad, ShivaniChavan	IR Sensor with Output	To apply IR sensor in circuit	Developed circuit that proves working of IR LED (Light Emitting Diode) and the detector IR photodiode	• IR sensor module • IC 7805: Voltage Regulator 5V • Resistor: 330ohm • LED • Battery: 9V
11.	Ajay Nikam, MuaajChawadiwale, SanketPanaskar	Limit switch with DC motor	To apply Limit switches in control circuit	Made Circuit using Limit switch with DC motor	• Limit switch • DC geared motor • Battery: 9V
12.	Shahabaz Bagwan, Suhel Bagwan, Jagtap Pratik, Vinode Madure, Prathamesh Bhange	PIR sensor (Motion detection)	To use PIR sensor for motion detection	Made circuit using PIR sensor that detects any change in motion	• PIR (Passive InfraRed) sensor module • Resistor: 470ohm • LED • Battery: 9V • Zero PCB (Printed Circuit Board)

No.	Names	Project	Objective	Components
13.	SnehalDeshmukh, PoojaKarande, VidyaPawar, SapanaSawant	Water Level Indicator	To develop water level indicator circuit	developed the water level indicator (Gauge) using. • Transistor: BC548 • Resistor: 330ohm • LED: Red, Green, Yellow • Buzzer	Transistor: BC548 • Resistor: 330ohm • LED: Red, Green, Yellow • Buzzer• Battery: 9V • Zero PCB (Printed Circuit Board)
14.	SohailInandar, SahilShinde, Abhishek Jadhav, PranavMohite	Soil Moisture Tester	To make Soil moisture tester	Working Circuit of soil moisture tester is developed	Transistor: BC547 • Resistor: 330ohm • Buzzer • Battery: 9V • Zero PCB (Printed Circuit Board)
15.	SanyuktaBhosale, KonalKamble, PrajktaKenjale, MrunalBhondave	Single LED flasher	To use IC 555 Timer in mechtronics circuit	The IC 555 timer is used to determine the time of the LED stays ON & OFF	IC555 (Timer IC) • Resistor: 330ohm, 10kohm, 1kohm • Capacitor: 10uf, 0.01uf • Battery: 9V • LED
16.	ChavanPareshGanpa, GadiwaddarGopal, RathodSwapnilRam, PawarSagarPrakash	Limit Switch application	To apply Limit switches in control circuit	Made Circuit with limitswitch controoling D.C Motor	Limit switch • DC geared motor • Battery: 9V
17.	KadamChandanRaje, DhayugadeTejaswiD, Barge ShubhamRajendra, MahamuniOmkar	PIR sensor (Motion detection)	To use PIR sensor for motion detection	Made circuit using PIR sensor that detects any change in motion	PIR (Passive InfraRed) sensor module • Resistor: 470ohm • LED • Battery: 9V • Zero PCB (Printed Circuit Board)
18.	Jadhav Vikas P., SayyedJaid H, ChavanAkash D.	Light Activated LED	To Use light activated LED in circuit	Made Circuit using light activated LED	Transistor: BC547 • Resistor: 330ohm, 100kohm • LDR (Light Dependent Resistor) • LED • Battery: 9V • Zero PCB (Printed Circuit Board)
19.	Avinash Mane, Shraddha Chavan				

Course coordinator

H.O.D.
Mechanical Engineering Department
K.B.P College of Engineering, Satara

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Rayat Shikshan Sanstha's
Karmaveer Bhaurao Patil College of Engineering, Satara

Academic Year: 2018-19   Semester-II

Name of the Program: Electronics Engineering   Program Code: 627004
Name of the Course: Elective II(HPCN)   Course Code:EL410
Class: B.E.

Roll No.	Sr.No.	NAME OF STUDENT	Topic	Sign.
Elect/BE/2018/5	2	CHAVAN MEGHA R.	Configuration of Switch for Gigabit Ethernet Interfaces	
Elect/BE/2018/6	3	CHAVAN ASHWINI A.		
Elect/BE/2018/34	4	KADAM DIKSHA P.		
Elect/BE/2018/3	5	CHAVAN ANJALI S.		
Elect/BE/2018/9	6	DESAI SWAPNALI S.		
Elect/BE/2018/47	7	NALAWADE RAJASHRI M.		
Elect/BE/2018/49	8	NIKAM RUTUJA J.		
Elect/BE/2018/16	9	DIXIT SNEHAL ANIL		
Elect/BE/2018/26	10	GUJAR SAPNA B.		
Elect/BE/2018/25	11	GORE NAMRATA S.		
Elect/BE/2018/41	12	LAD ASHWINI L.		
Elect/BE/2018/1	13	BARGE MADHURI C.		
Elect/BE/2018/4	14	CHAVAN MAYURI S.		
Elect/BE/2018/43	15	LOKHANDE POOJA D.		
Elect/BE/2018/38	16	KHAJURE DHANASHREE T.		
Elect/BE/2018/12	17	DHAGE VIJAY D.		
Elect/BE/2018/20	18	GARGE SAKSHI A.	Design of Computer Network of 10 Computers and Router Configuration	
Elect/BE/2018/50	19	OWAL SUPRIYA D.		
Elect/BE/2018/7	20	CHIVALE AMRUTA U.		
Elect/BE/2018/18	21	GAIKWAD TRUPTI N.		
Elect/BE/2018/36	22	KALBHOR PRANAV P.		
Elect/BE/2018/62	23	SALUNKHE ROHAN S.		
Elect/BE/2018/14	24	DISALE MAYURI G.		
Elect/BE/2018/21	25	GHADGE PRATIKSHA B.		
Elect/BE/2018/28	26	JADHAV NIKITA U.		
Elect/BE/2018/53	27	PATIL SANJIVANEE S.		
Elect/BE/2018/40	28	KOLEKAR MINAL H.		
Elect/BE/2018/65	29	SAWANT BHAGYASHREE A.		
Elect/BE/2018/60	30	PHADTARE NIKITA R		
Elect/BE/2018/44	31	MALAVE AMRUTA A.		
Elect/BE/2018/61	32	PORE KALYANI D.		
Elect/BE/2018/66	33	SHINDE POOJA P.		
Elect/BE/2018/69	34	SHINGADE SHITAL S.		
Elect/BE/2018/10	35	DESHMUKH PRATIK S.	Configuration of Router	
Elect/BE/2018/27	36	INGAWALE PRIYANKA A.		
Elect/BE/2018/84	37	KAZI ARBAZ C.		
Elect/BE/2018/87	38	MORE ANKITA R.		

Elect/BE/2018/24	39	GOLSAR BHAGYASHREE V.		
Elect/BE/2018/39	40	KHARADE PRAJAKTA K.		
Elect/BE/2018/32	41	JAIN PRIYA SATISH		
Elect/BE/2018/90	42	PHADATARE ANIKET A.		
Elect/BE/2018/11	43	DESHMUKH MRUNAL K.		
Elect/BE/2018/30	44	JADHAV POOJA V.	Configuration of Router	
Elect/BE/2018/68	45	SHINDE ANKITA V.		
Elect/BE/2018/51	46	PARMANE SUPRIYA R		
Elect/BE/2018/15	47	DIXIT PRAJAKTA D.		
Elect/BE/2018/22	48	GHADGE NIKITA D.		
Elect/BE/2018/54	49	PAWAR VAISHNAVI M.		
Elect/BE/2018/33	50	JAWALE PRERANA S.		
Elect/BE/2018/64	51	SAWANT PRAJAKTA D.		
Elect/BE/2018/63	53	SAWANT AMRUTA M.		
Elect/BE/2018/2	54	CHALKE RIDDHI D.	Design of Computer Network of 15 Computers	
Elect/BE/2018/58	55	PHADTARE MADHURI		
Elect/BE/2018/29	56	JADHAV ASMITA P.		
Elect/BE/2018/67	57	SHINDE JYOTI B.		
Elect/BE/2018/46	58	MANE ASHWINI G.		
Elect/BE/2018/55	59	PAWAR BABLI N.		
Elect/BE/2018/56	60	PAWAR RITUJA N.		
Elect/BE/2018/17	62	DOLAS SWATI G.		
Elect/BE/2018/19	64	GAIKWAD RAJESH S.		
Elect/BE/2018/94	68	YADAV NIKITA S.		
Elect/BE/2018/80	69	KADAM ASHUTOSH		
Elect/BE/2018/86	71	LOHAR RAVINA J.		
Elect/BE/2018/45	73	MANE SHRIKANT A.		
Elect/BE/2018/71	74	UMBARDAND S. G.		
Elect/BE/2018/78	76	GHODAKE SAISH G.		
Elect/BE/2018/13	77	DHANE AKSHAY R.		
Elect/BE/2018/70	78	SURYAWANSHI AVINASH S.		
Elect/BE/2018/59	79	PHADTARE PRASAD T.	Speed improvement of LAN	
Elect/BE/2018/52	81	PASALEKAR VINAYAK S.		
Elect/BE/2018/48	82	NAWADKAR SHANTANU S.		
Elect/BE/2018/42	83	LOKHANDE SUMIT R.		
Elect/BE/2018/37	84	KAMBALE ANIKET S.		
Elect/BE/2018/72	85	YEWALE NIPUN U.		
Elect/BE/2018/57	86	PAWAR AJIT V.		
Elect/BE/2018/31	87	JADHAV AVINASH D.		
Elect/BE/2018/23	88	GHATGE KULDEEP		
Elect/BE/2018/35	91	KADI KETAKI		

Subject Incharge :- Mrs. Ulmek A.N.

Rayat Shikshan Sanstha's

Karmaveer Bhaurao Patil College of Engineering, Satara

Project Based Learning

Program with code: _Production Engg_ $\boxed{62706}$

Class: _T.E._

Semester: _VI_

Academic Year: _2018-19_

Course with code: _Industrial Hydraulic & Pneumatics_ $\boxed{PE\ 309}$

Project title : _Design and development of Hydraulic Press with die_

Group Members:

Roll No	Name
6	Abhimanyu B Dhane
12	Aniket N. Kanse
13	Dinesh V. Kathar.
14	Akshay N kavade.
22	Aakash M. Pawar.

Faculty Name and Designation: Ast.prof Mr. A.M.shaikh.

Objectives: Hydraulic press is a tool to produce compressive force by means of fluid. IJ's depends upon Pascal's principles that that throughout an enclosed entity is constant.

Outcome: Thus the whole mechanism have been simplified with use of hydraulic equipments. moreover, the use of pressure control valve and direction control valve the forces and control speed of the setup.

Materials /Tools/Components /Equipments Used: Ram, Punch, Die, Bed, Bolster, support structure.

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Schedule:

Duration	Activity	Remark
1-2 hour	Collect the information	
30 min	See the hydraulic circuit	
15 min.	Selection of DCV as per operation	

Theory/Design/Methodology: The operation sequence of the designed hydraulic press. As one can observe from the diagram that the movement of the cylinder is being regulated by means of lever which will be automized later.

Results Discussion: The speed of blanking operation is accurately controlled by flow control valve.

Conclusion: This may increase the productivity and increase the accuracy of the production. Even the press can be completerly automize by using the concept of electro hydraulics. Direction value can be solenoid actuated to make the system close loop.

References

[1]. Design & development of Hydraulic press Die 5th National
[2]. conference on "Recent Advance in manufacturing
[3]. 'Kam-2015', 's 17 may-2015'

1.0 INTRODUCTION

Hydraulic press is a tool to produce compressive force by means of fluid. It depends upon Pascal's principle that the pressure throughout an enclosed entity is constant. By means of hydraulic system larger forces can be produced in contrast with mechanical and electrical systems. Such forces can be used for the press work application such as blanking, punching, piercing, coining, trimming etcetera.

Press work is a method of mass production involving the cold working of metals, usually in the form of thin sheet or strip. Press working is one of the extensively employed methods of fabricating parts of intricate shapes with thin walls. Press working processes make use of large forces by press tools for a short time interval which results in cutting or shaping the sheet metal. Since, press working does not involve heating of the parts, close tolerances and high surface finish can be obtained on the part. Since presses can produce components at fairly fast rates, the unit cost of labour for operating the press is fairly low.

Press working forces are set up, guided and controlled in a machine referred to as a Press. Thus an attempt has been made to atomize the process of press work using Hydraulic mechanism in press machine. The inputs and outputs of the control system including hydraulic mechanism are solely mechanical such as rotating shaft or reciprocating plunger. The prime remuneration of implementing this system is the movement of the mechanical devices can be operated by means of hydraulic components such as actuators to initiate the movement which could be in the form of lever to apply manually or by means of switches to operate automatically. Furthermore, direction control valves have been implemented to control the directions of piston movements and regulate the same. Thus the whole mechanism have been simplified with the use of hydraulic equipment. Moreover, the use of pressure control valve and direction control valves, makes it easier to regulate the forces and control the speed of the setup.

2.0 Design and modelling of the parts for proposed set up

The proposed set up is shown in figure 1 below, gives the brief of required components to be assembled together.
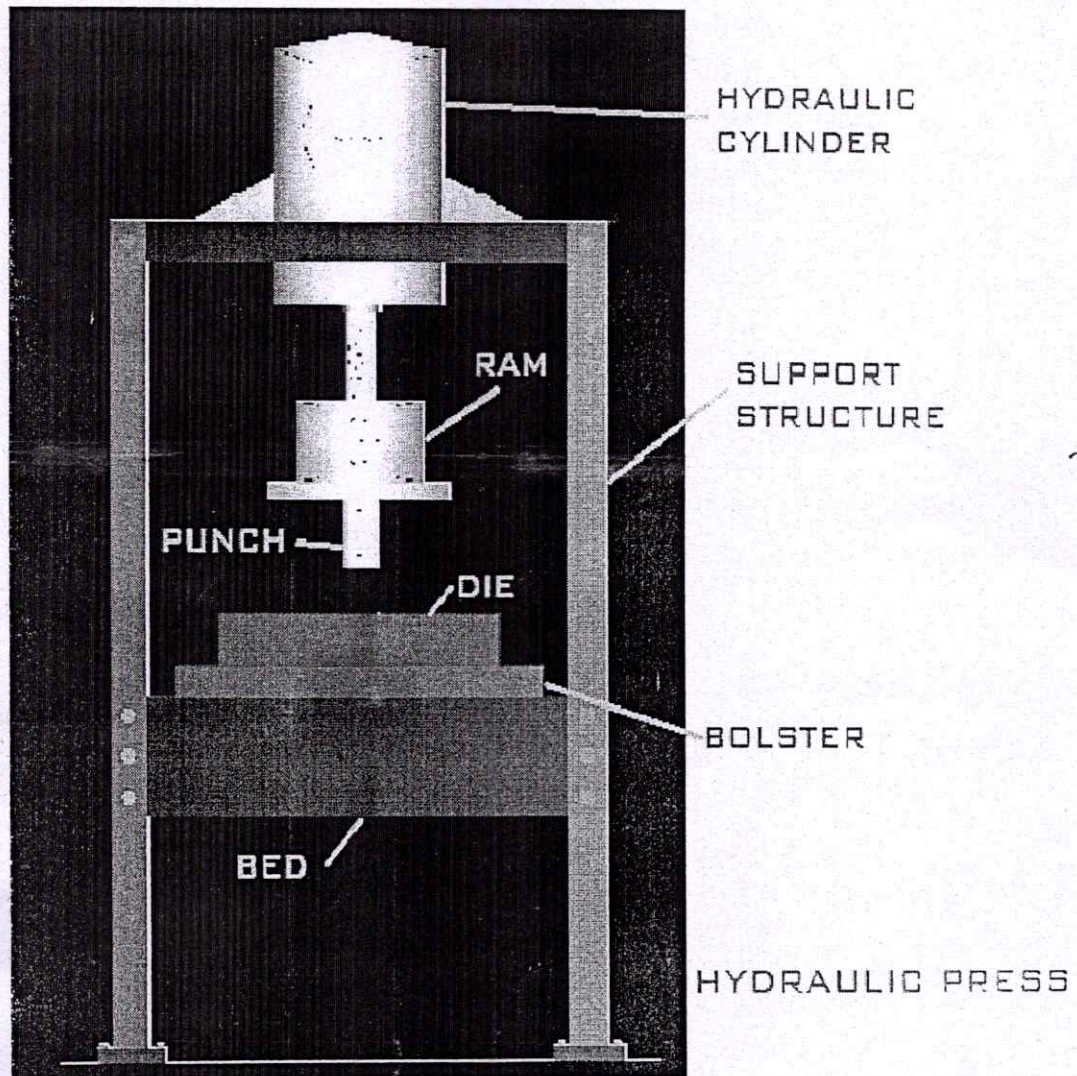
Fig. 1 The Proposed Set Up Of Hydraulic Press

2.1 Support structure

It is an assembly of support frame and bed. Both the channels bolster each other with the help of a supportive plate welded at the top of the structure. Further it is welded at the foundation to give the whole assembly a framed structure. The bed which holds a die is clamped on the holes.

2.2 Bed

Bed is a plate on which the die is supposed to hold. It is used for mounting the die on support frame at desired position. Figure 3 shows the design of bed where the holes produced on the sides shows the support plate to be clamped on support frame.

2.3 Die

Die is an integral part of any manufacturing process which enables the desired shape that one require. Here for the experimental purpose a compound die have been used which produces a washer from the strip of sheet metal. The dimensions of the outcome washers are as follow. Outer diameter = 30 mm, Inner diameter = 10 mm. A blanking die produces a flat piece of material by cutting the desired shape in single operation.

2.4 Punch

Punch is the male component of die. In compound die we used two punch one cuts inner diameter of washer and another cuts outer diameter of same. Punch which cuts I.D. is placed at bottom side of female die. Second punch that cuts outer diameter of washer is attached with piston rod of hydraulic cylinder. Position of same punch is above side of die. Here figure 6 shows the section view of punch that cuts outer diameter.

2.5 Plunger and Hydraulic cylinder

Plunger has been purchased from the market. Main function of plunger in our project is it provides required hydraulic pressure to our hydraulic cylinder. Hydraulic cylinders get their power from pressurized hydraulic fluid, which is typically oil. The hydraulic cylinder consists of a cylinder barrel, in which a piston connected to a piston rod moves back and forth. The barrel is closed on each end by the cylinder bottom (also called the cap end) and by the cylinder head where the piston rod comes out of the cylinder. The piston has sliding rings and seals. The piston divides the inside of the cylinder in two chambers, the bottom chamber (cap end) and the piston rod side chamber (rod end).

3.0 WORKING OF SET UP

Hydraulic press is used in mass production. Working cycle of hydraulic press is very quick so production increases.

In hydraulic press hydraulic energy first converted in to kinetic energy of piston. This kinetic energy produces shear stress between die and punch which cuts the metal.Description of working of hydraulic press is started from plunger. It's based on Pascal's law, which states that the intensity of pressure in a static fluid is transmitted equally in all direction. Here plunger and cylinder connected with pipe to each other.

Here when we increases the pressure of fluid in plunger then according to Pascal's law intensity of pressure in static fluid is transmitted from plunger to cylinder thru pipe which connected cylinder and plunger.

In cylinder as the intensity of pressure in fluid increases it push the piston outside cylinder. Because of this punch which is attached at one end of piston also moves in direction of piston.

WHEN INTENSITY OF PRESSURE IN FLUID INCREASES IT PUSH THE PISTON IN MONTIONED DIRECTION

WHEN THE PISTON MOVES IN DOWNWARD DIRECTION PUNCH ALSO MOVES IN SAME DIRECTION

WHEN PUNCH MOVES DOWN THEN PUNCH & DIE ACROSS EACH OTHER AND SHEAR STRESS INDUSED
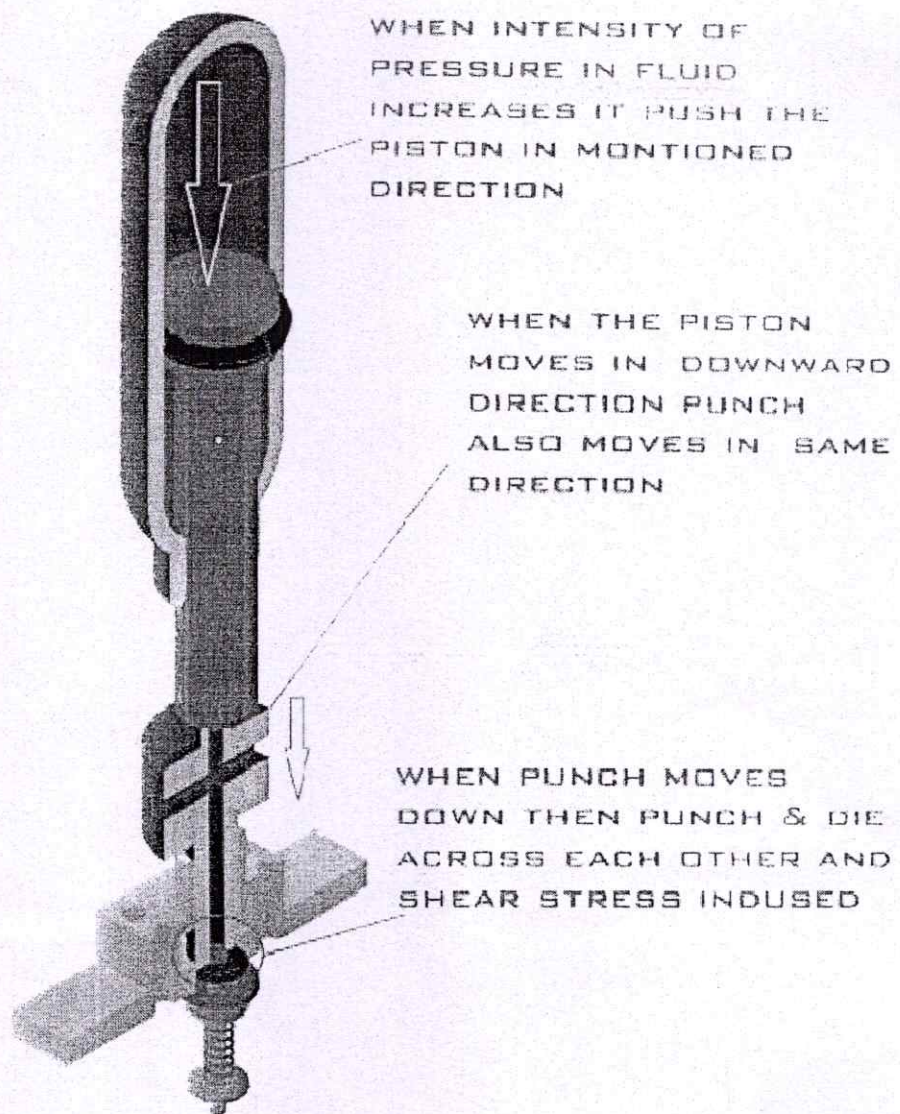
Fig.2Concept Of Working Of Press

As the punch moves downward direction it across the die thru a guide way. If metal strip placed between die and punch then when the punch across the die then shear stress induced between die and punch.

Because of this shear stress metal strip cut in shape of die and final product is produce.

Here O.D. of washer cuts from outer edge of upper punch and die. And I.D. of washer cuts from outer edge of lower punch and inner edge of upper punch.

5.0 INTEGRATING THE SETUP WITH HYDRAULIC CONTROL SYSTEM
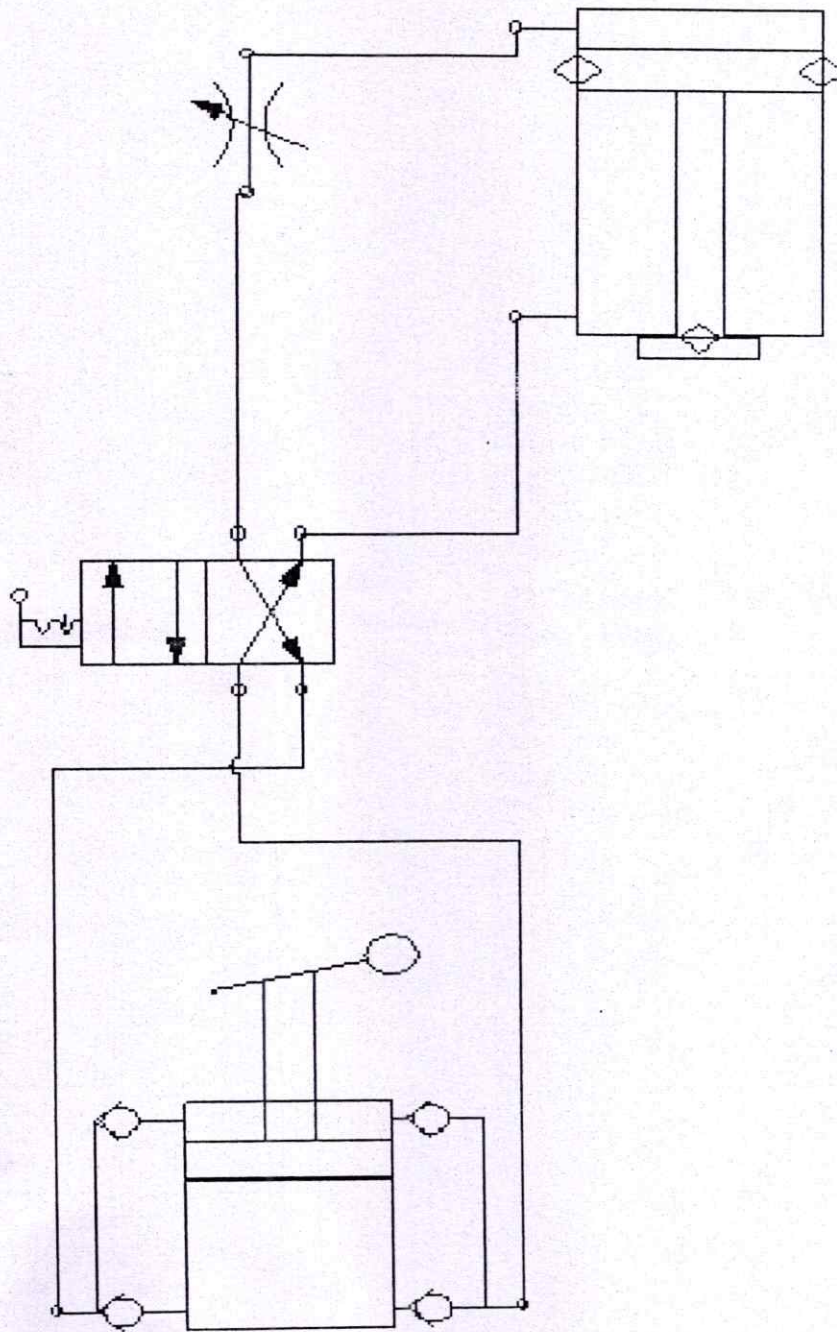
Fig. 3 Hydraulic circuit of the experimental apparatus

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6.0 CONCLUSION AND FUTURE SCOPE

Thus here a hydraulic system is used to develop a press. The press will be useful for mass production of Washers. This may increase the productivity and increases the accuracy of the production. Even the press can be complete rely automize by using the concept of ectrohydraulics. Direction control valve can be solenoid actuated to make the system close loop. Which may lead to higher production rate.

Rayat Shikshan Sanstha's

Karmaveer Bhaurao Patil College of Engineering, Satara

Project Based Learning

Program with code: Mechanical Engineering

Class: B.E

Semester: VIII

Academic Year: 2018- 19

Course with code: Mechatronics

Project title : PIR sensor (Motion detection)

Group Members:

Roll No	Name
01.	Bagwan. Shahabaz.S
02.	Bagwan. Suhel. H
24.	Jagtap. Pratik. &S.
42.	Madure. Vinod. V

Faculty Name and Designation: Prof. Ms. Shivdas. R. k

Objectives:

i) To use PIR sensor for motion detection

ii) To get knowledge about application of PIR (motion sensor).

iii) To study in detail about working of PIR. sensor.

Outcome:

i) Made circuit using PIR sensor that detects any change in motion.

Materials /Tools/Components /Equipments Used:

- PIR (Passive Infra red) sensor module
- Resistor : 470 ohm
- LED :- Red, Green, Yellow
- Buzzer :- Battery :- 9v
- zero PCB :- CPCB (Printed Circuit Board)

Schedule:

Duration	Activity	Remark
14 March 19 To 20 March 19	Study Theory/methodolog to use PIR sensor in motion detection	Completd
	making model of motion detection circuit.	

Theory/Design/Methodology:

- Passive Infrared (PIR) sensor module is very useful module, used to build many kinds of security alarm systems and motion detectors. It is called passive because it receives infrared, not emits. They are also referred as IR motion sensors.

Results Discussion:

- PIR sensor detects any change in heat, and whenever it detects any change, its output PIN becomes HIGH
- Our group discussed on the application of PIR sensor.

Conclusion:

- We concluded from this short mechatronics project on PIR motion sensor.
- We learnt from this that PIR sensor can be used in security alarm system.

References

31/3/19

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Expriment No.5

Fabrication of Simple Mechatronics Project

PIR sensor (Motion Detection):
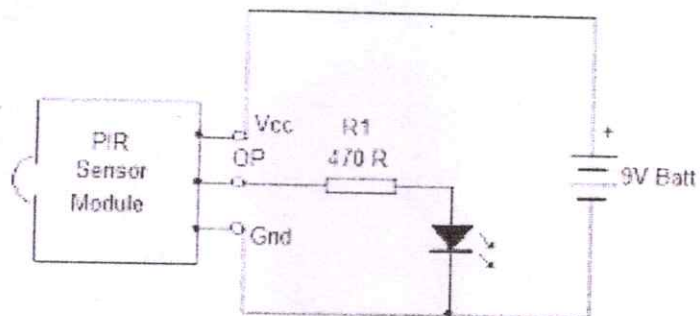
Components:

- PIR (Passive InfraRed) sensor module
- Resistor: 470ohm
- LED
- Battery: 9V
- Zero PCB (Printed Circuit Board)

Working:

Passive Infrared Sensor (PIR) is very useful module, used to build many kinds of Security Alarm Systems and Motion Detectors. It is called passive because it receives infrared, not emits. Basically PIR sensor detects any change in heat, and whenever it detects any change, its output PIN becomes HIGH. They are also referred as IR motion sensors.

Group Members : 1) Bagwan. Shahabaz. S   4) Madure Vinod. V.
2) Bagwan. Suhel. H
3) Jagtap. Pratik. S

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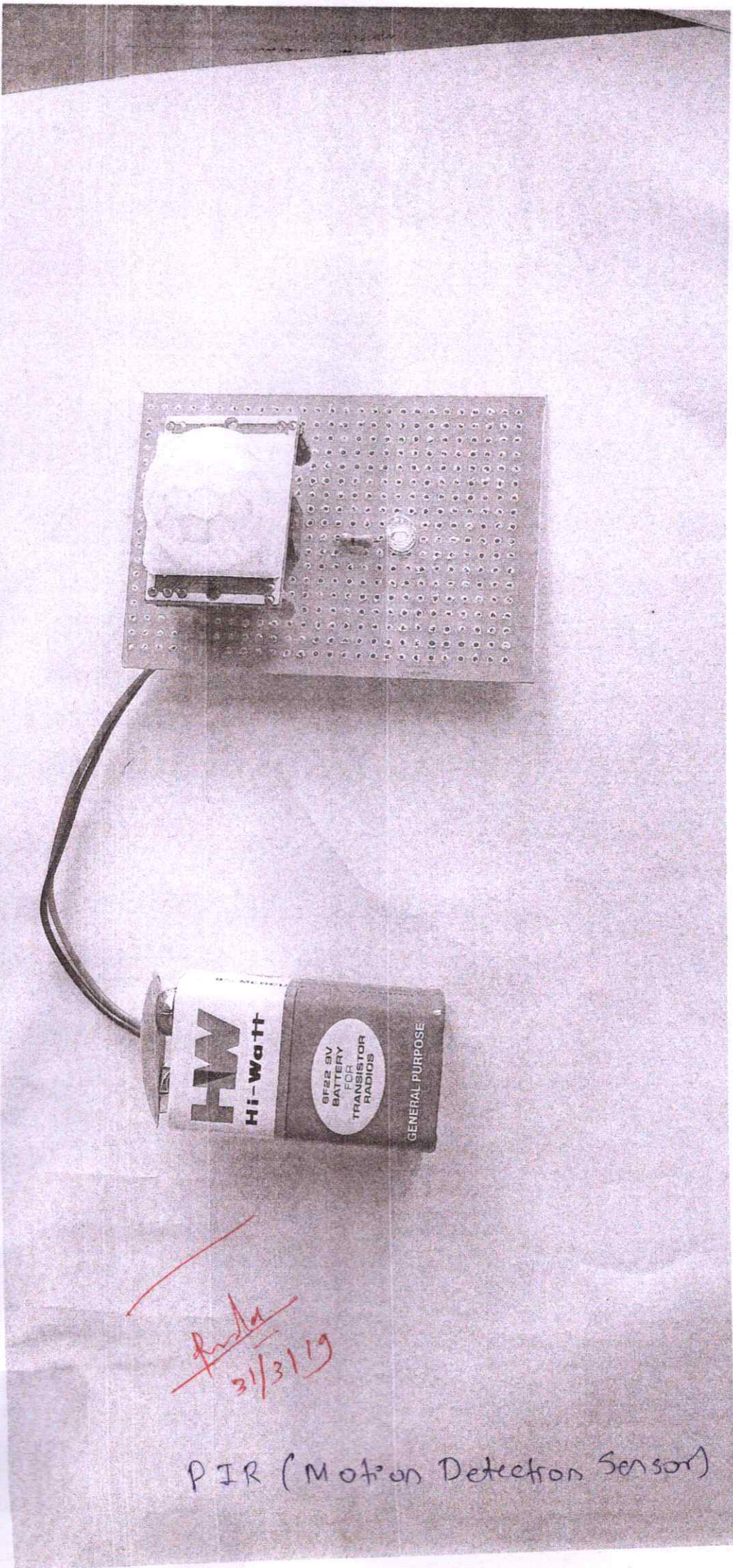
PIR (Motion Detection Sensor)

Book Bank Issue /Return Details 2018-19

Sr. No.	Class	Sem I				Sem II			
		Gen. Students	Total Books	S.W. Students	Total Books	Gen. Students	Total Books	S.W. Students	Total Books
1	BE Mechanical	17	63	0	0	11	40	0	0
2	BE Production	7	29	0	0	5	28	1	5
3	BE Electronic	27	95	2	6	22	55	2	6
4	BE Civil	21	90	3	9	22	59	3	9
5	BE computer	18	60	5	16	12	32	2	6
6	TE Electronic	26	81	5	17	24	68	4	16
7	TE Computer	42	173	5	23	44	139	5	17
8	TE Production	16	74	2	6	11	41	0	0
9	TE Mechanical	11	38	9	25	15	54	7	21
10	TE civil	15	33	3	9	9	29	2	6
11	SE computer	18	52	2	6	16	40	2	5
12	SE Mechanical	34	115	3	5	22	50	3	9
13	SE Civil	17	68	4	16	2	6	3	8
14	SE Electronics	27	82	2	6	11	26	4	12
15	F. Y. Mechanical	37	145	4	15	2	6	1	3
16	F. Y. Computer	28	105	2	6	2	6	0	0
17	F.Y. Civil	11	44	3	9	4	10	0	0
18	F.Y. Electronic	15	57	0	0	6	11	0	0
	Total	387	1404	54	174	240	700	41	129

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BOOK- BANK NOTICE 2018-19 SEMESTER - I

Date :- 18/07/20118

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	DATE	TIME	CLASS
Tuesday	24.07.2018	10.00 to 12.00	BE Mechanical
		12.00 to 02.00	BE Production
		03.00 to 05.00	BE Electronics
Wednesday	25/07/2018	10.00 to 12.00	BE Civil
		12.00 to 02.00	BE Computer
		03.00 to0 5.00	T.E.Electronics
Thursday	26/07/2018	10.00 to 12.00	TE Computer
		12.00 to 02.00	TE Production
		03.00 to 05.00	TE Mechanical
Friday,	27/07/2018	10.00 to 12.00	TE Civil
		12.00 to 02.00	S.E.Computer
		03.00 to 05.00	S.E.Mechanical
Saturday	28/07/2018	10.00 to 12.00	S.E.Civil
		03.00 to 05.00	S.E.Electronics

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BOOK- BANK NOTICE For F.Y.B.Tech
2018-19 SEMESTER - I

Date: - 14/08/2018
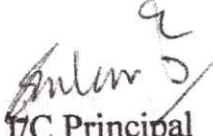
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21/08/2018	10.30 AM	F.Y.Mechanical
	12.30 PM	F.Y.Computer
	03.00 PM	F.Y.Civil
	05.00 PM	F.Y.Electronics

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Monday	14/01/2019	10.00 to 12.00	**BE Civil**
		12.00 to 02.00	**BE Computer**
		03.00 to 05.00	**BE Electronics**
Tuesday	15/01/2019	10.00 to 12.00	**BE Mechanical**
		12.00 to 02.00	**BE Production**
		03.00 to 05.00	**T.E.Civil**
Wednesday	16/01/2019	10.00 to 12.00	**TE Mechanical**
		12.00 to 02.00	**TE Production**
		03.00 to 05.00	**TE Computer**
Thursday	17/01/2019	10.00 to 12.00	**TE Electronics**
		12.00 to 02.00	**S.Y.Electronics**
		03.00 to 05.00	**S.Y.Civil**
Friday	18/01/2019	10.00 to 12.00	**S.Y.Mechanical**
		12.00 to 2.00	**S.Y.Computer**
		03.00 to 5.00	**F.Y. Electronics**
Saturday	19/01/2019	10.00 to 12.00	**F.Y.Mechanical**
		12.00 to 2.00	**F.Y.Computer**
		03.00 to 5.00	**F.Y. Civil**

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SEMESTER I / ~~II~~

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2	Fluid mechanics & Hydraulic machinery	modi & seth.
3	Surveying-I	Punmia.
4	Mechanics of solids	khurmi R.S.
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BOOK-BANK FORM Year- 2018- 19
SEMESTER I / II

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3	13881	Strength of Mat.	Ramamruth	hipicits
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SEMESTER I / II

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4	strength of materials	s. Ramamurtham
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BOOK-BANK FORM Year- 2018- 19
SEMESTER I / II

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3	The design of Unix O.S.	Maurice. J. Bach
4	Compiler-Principle, Tech. & Tools — AV. Aho	R Shethi, J.D. Ullman
5		
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2	Town planning	N. Krishna Raju
3	Rai	Rangwala
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6		
7		
8		

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Sr. No.	Name of the Book	Author
1	IRRIGATION AND WATER POWER	DY. B.C. PUHMTA.
2	DESIGN of BRIDGE	N. Krishna Raju.
3		
4		
5		
6		
7		
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Lib. No. 6738 Address 271, Malhar Peth, Satara.

Sr.No.	Acc. No.	Title	Author	Signat
1	83963	Operations Research.	Gupta.	SDS
2	82583	Internal combustion	Mathur.	SDS
3	13385	oil Hydraulic.	Majumdar. BPS	
4				
5		Nil		
6				
7		1/7/19		
8				
9				
10				
11				
12				

Name   Javir Pranita Anil   Class: S.E civil

Lib. No. 6791   Address   Sadarbazar, SATARA

Sr.No.	Acc. No.	Title	Author	Signatur
1	83202	strength of material	Khurmi	P.A Ju
2	19695	Surveying & Levelling	N.N.Basak	P.A.Ja
3				
4				
5		(Nil) Shinde.		
6		22/05/19		
7				
8				
9				

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Sr. No.	Name of the Book	Author
1 1]	internal combustion engine.	mathur Sharma
2 2]	industrial management and	Nandkumar
3	operation Research	Hukeemi
4 3]	industrial fluid Power	Shaikh Ishan
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