



A T M E
College of Engineering



Date: 10/01/2017

To,

Mr. K Subramanyam
Chairman
BAI, Mysore

Dear Sir,

Sub: Requesting for 7days internship program in Construction site

I hereby request you to provide opportunity for our students to undergo 7days internship program in your esteemed association, (

Students list is enclosed with the letter.

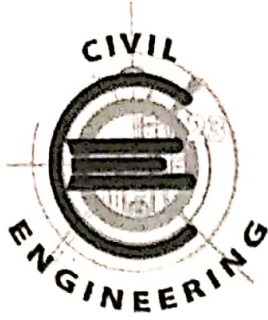
Thanking you,

Yours Sincerely

PRINCIPAL

A.T.M.E. College of Engineering
11th K.M Store, Bannur Road
Mellanall, MYSORE-570028

10/1/17



A REPORT ON
"INTERNSHIP PROGRAMME"

Submitted by the Students of

BATCH 1

Rakesh.M	Akshatha.KK
Naveen Kumar	Chandrakala.KN
Umesha.M	Likitha.R P
Bindusara (Jayanth.K)	Naveen Kumar.MS Swathi.J
Sangeetha.R	Madhusudhan.M
Manjula.NR	Sachin Kumar
Sahana.N	Sanjay.R

Training period

Date (12/1/17 TO 19/1/17)

From the students of

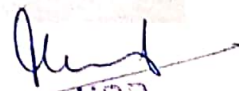
Fourth year, CIVIL dept.

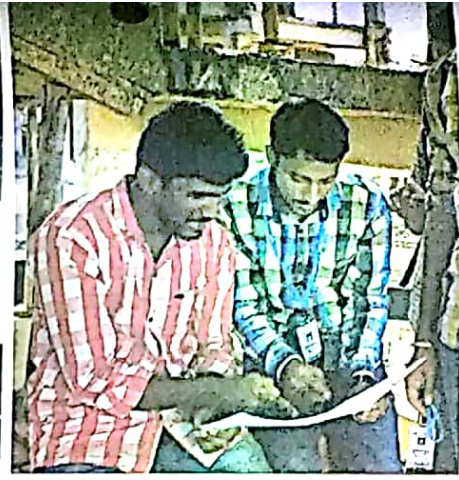
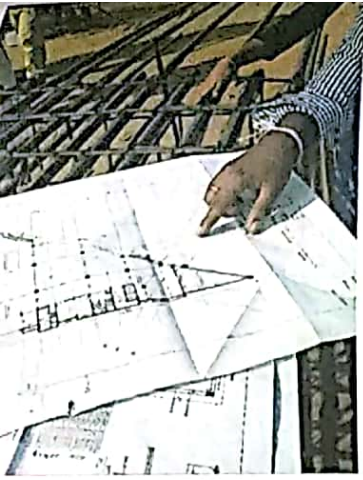
ATMECE, Mysore.

Report Submitted on

23/01/17

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HOD
DEPARTMENT OF CIVIL ENGINEERING
ATME COLLEGE OF ENGINEERING
MYSORE-570028



ABSTRACT

The Internship program gave a huge exposure over the construction activities carried on two different sites namely 1) STPI site and 2) LICI site

In this duration of 6 days we were able to learn huge amount of practical aspects and implementation of theoretical knowledge on site according to the plan, purpose and progress of works.

On first three days we got an opportunity to visit and learn the construction activity carried on STPI site, There we got very good response from the consult site engineers and they thought us various activities on progress like Excavation, Marking of Grid lines and Footings, Centring, Block levelling, Bar bending schedules (column and footing matts) etc. In addition to this they also explained us about upcoming future construction works on Slabs, Lift rooms, Retaining walls etc.

From the fourth day of our program our team joined the LICI construction site to know the ongoing construction activity in super structure.

In this particular site we learnt a lot about Brick Masonry, type of bonding's used, type of Sand and its properties (M-sand), Insertion of electrical pipe and switch boxes, External and Internal wall plastering, casting of Lintel beams, Shuttering works for beams, Centering and Formwork for slabs, Scaffolding used by worker in order to reach higher ground, Bar bending, Curtailment of bars etc.

SITE 1

SOFTWARE TECHNOLOGY PARK OF INDIA [STPI]

INTRODUCTION

The software technology park of India is providing biggest infrastructure for growth and development of IT sectors from past years. The central government of India has proposed a new software technological park in Mysore in order to provide various opportunities to improve IT sectors.

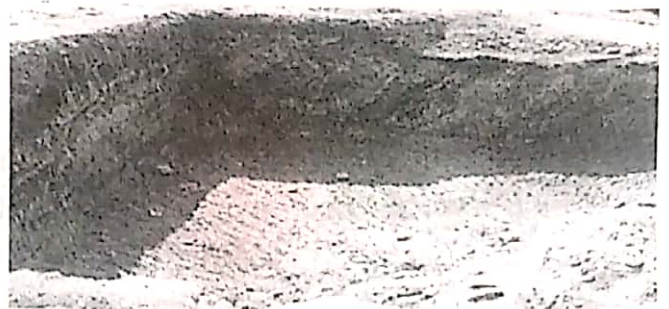
The STPI is located at 12th main road, Hebbal Anagahalli, Hebbal industrial estate, Mysore, Karnataka- 570027

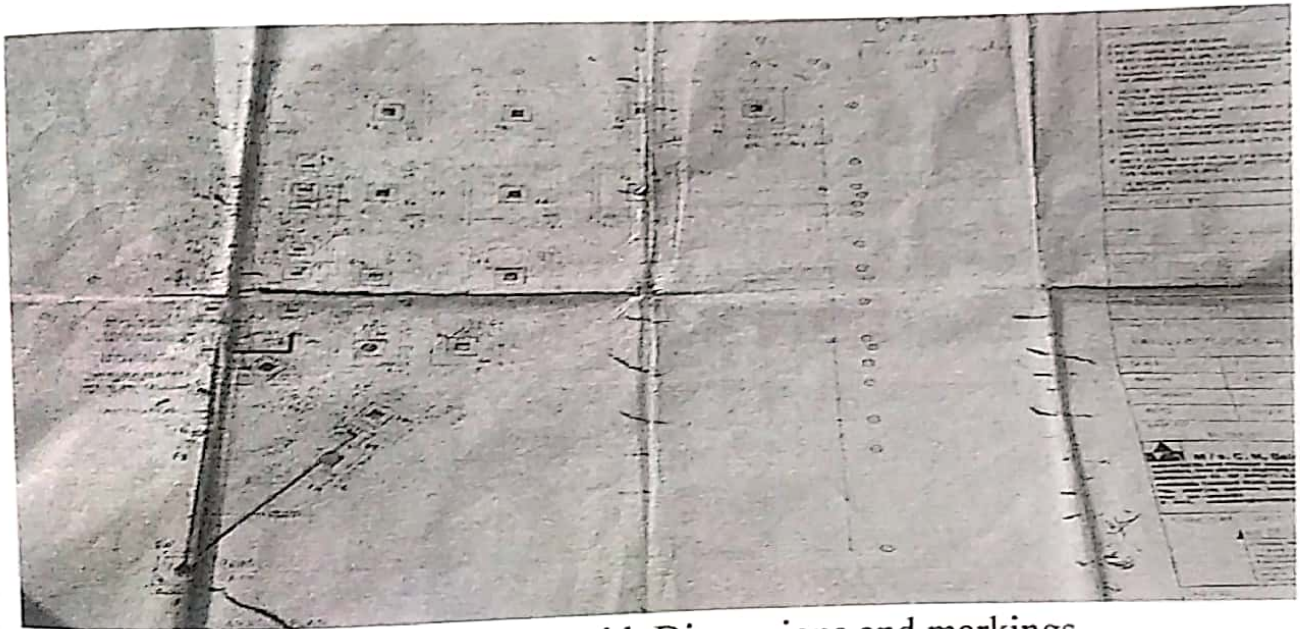
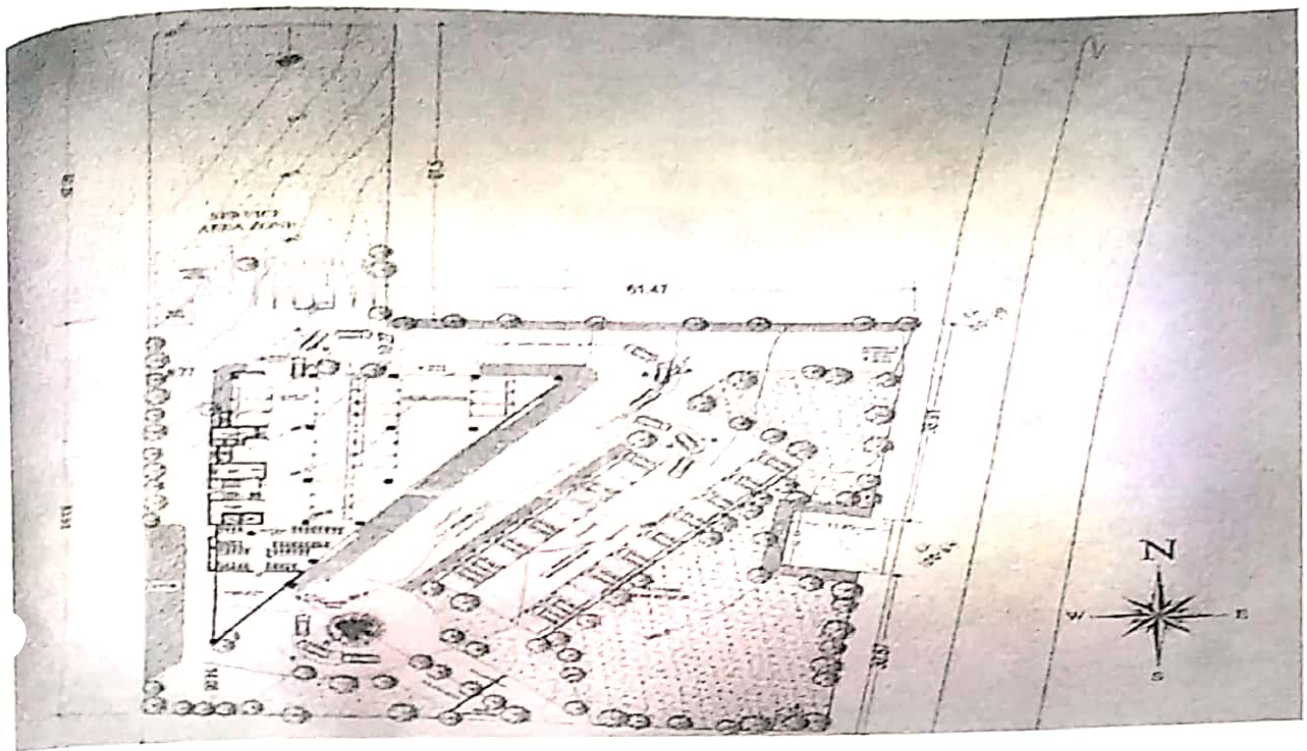
OBSERVATIONS

Day 1 to 3 (date-12/01/17-16/01/17)

- On our first visit to the STPI site, our team approached the senior engineer in site for the permission to visit, learn, analyse and to gain practical knowledge to implement in future and we are so much thankful to their guidance.
- After seeking the permission, the S E briefly explained the project and its objectives by presenting drawings and Plans with Structural design and dimension details of foundation, columns and their respective bar bending schedules.
- Initially the Natural ground level (NGL) of the construction site should be surveyed by fixing temporary bench mark (RL 100.00) at the required visible region .when NGL is known with respect to it the datum lines are fixed at different RL required and this data is used further for the Marking of Grid lines and excavation works.

- The excavation is carried out in three stages
 - a) Vegetation excavation- In this the surface mass which consist of plants and trees are cleared.
 - b) Mass excavation –This activity is carried out when vegetation excavation is completely finished, in this the soft rocks and hard rock's present in a required areas are excavated. The required sloping or gradient required for basement area is ensured.
 - c)Pit excavation and trench excavation-In this method the pit or trench as per the design criteria's and required dimension is excavated including the space required for shuttering and formworks .
- After the mass excavation, the Grid lines are marked with respect to the parallel offsets from roads or setbacks are made, the min depth is 1.5m.





Column footing details with Dimensions and markings

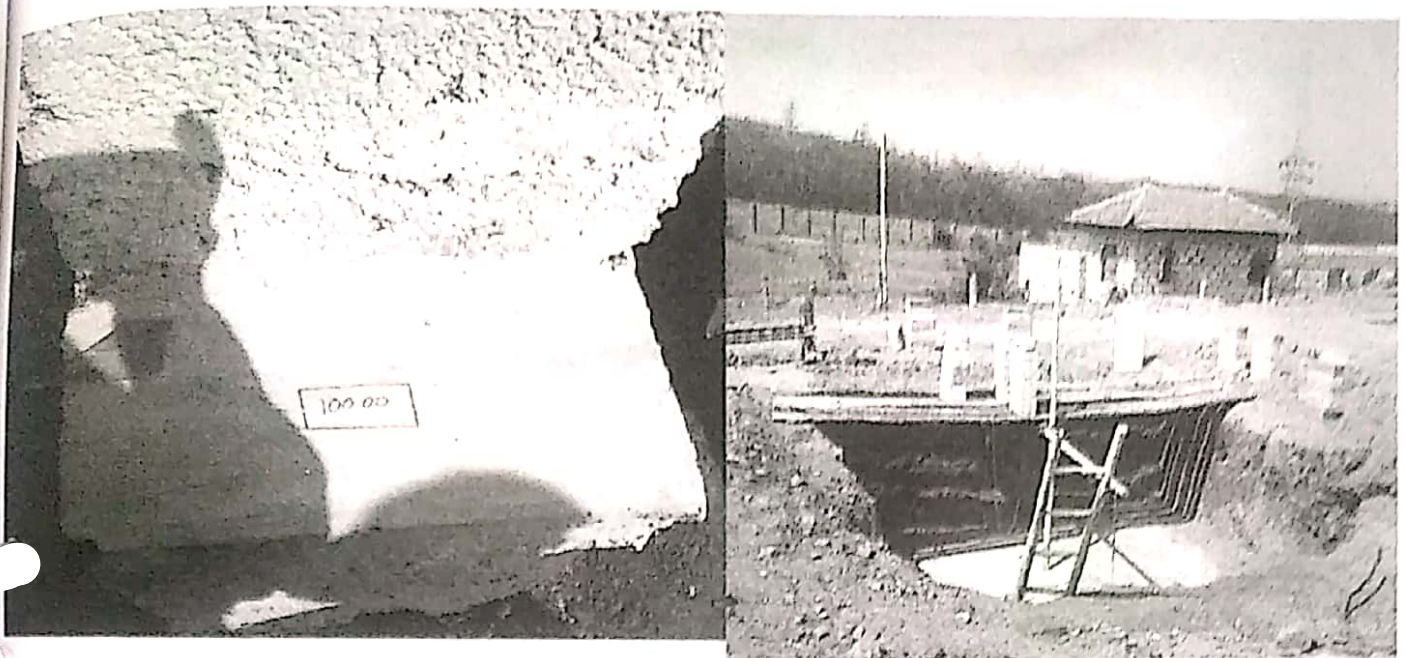
- The centre line marking of column footing is done with reference to the main grid line (which are aligned w r t the offset lines), the distance between the centre line of footing is aligned by measuring the distance (m) between centre to the subsequent grid lines.

➤ MARKING

- The marking of footing is based on dimension of the column, pedestrian, base slab etc.
- The pit is excavated by the power shovels based on required depth as per given design schedules and the side surface is clearly trimmed by workers.
- The P.C.C or bed concrete of M15 grade to a depth of 150mm to 200mm is poured to give separation between ground surface and column reinforcement.



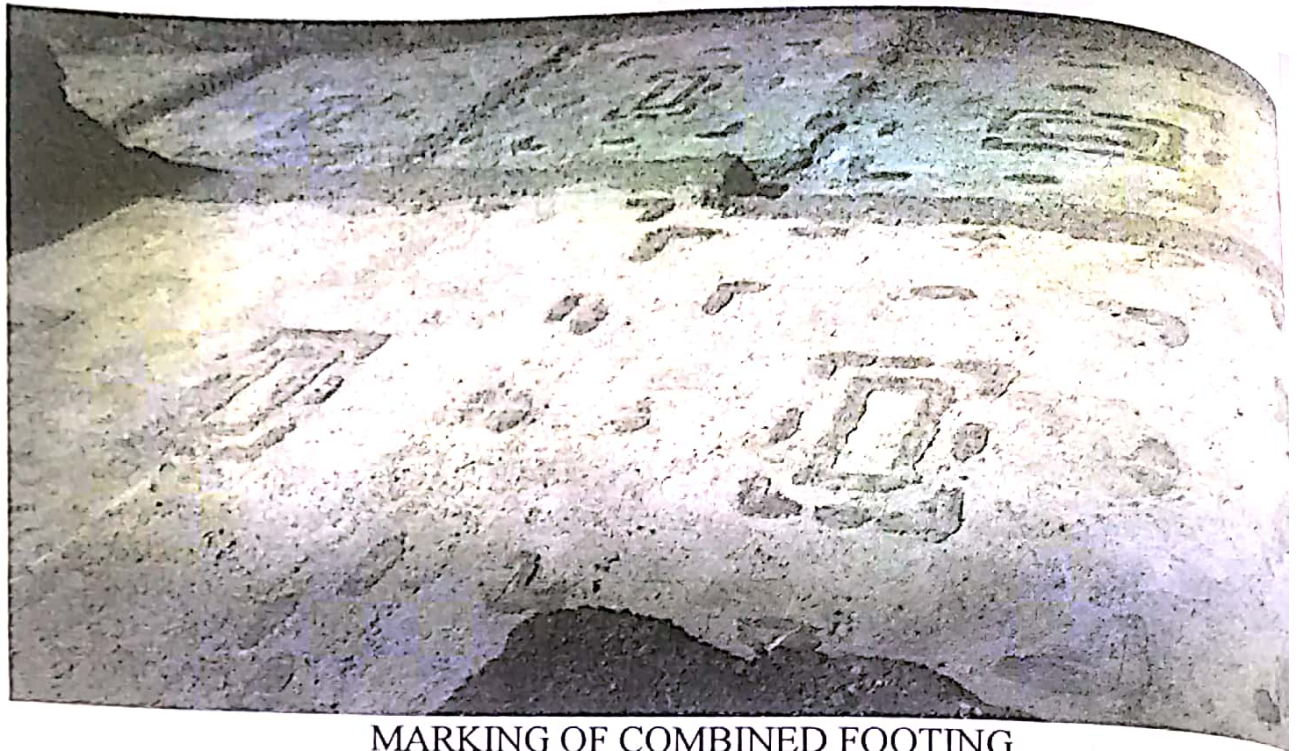
This Erected blocks are used as reference to mark C/C line for column and footing, the white painted blocks represents RL at respective ground profile.



BENCH MARK AT SITE (100.00)



Locating and transferring the Centre Point of Column with the help of Plumb Bob from the Grid line marked with the suspended wire.

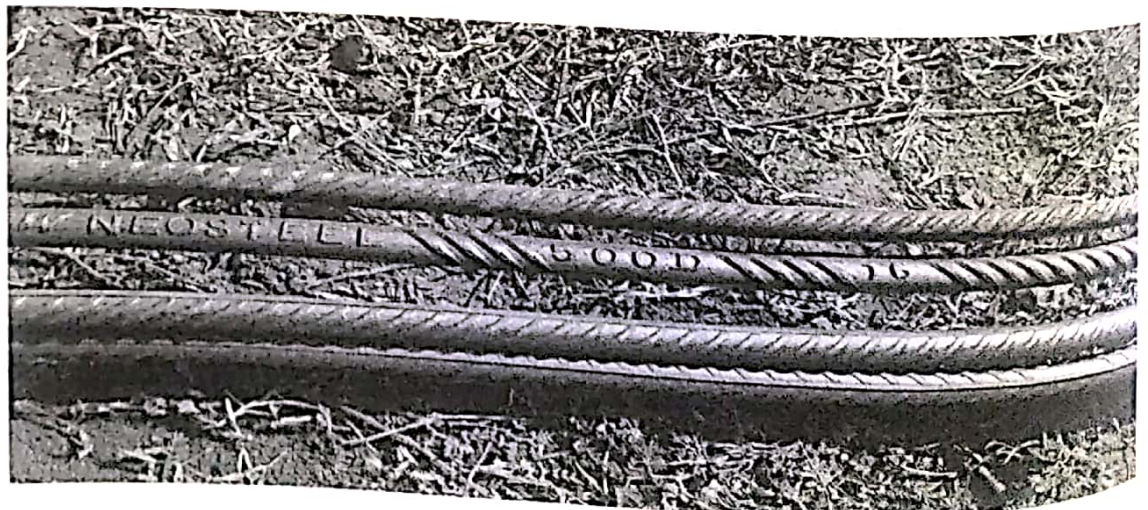


MARKING OF COMBINED FOOTING.

➤ STEEL RE-INFORCEMENT

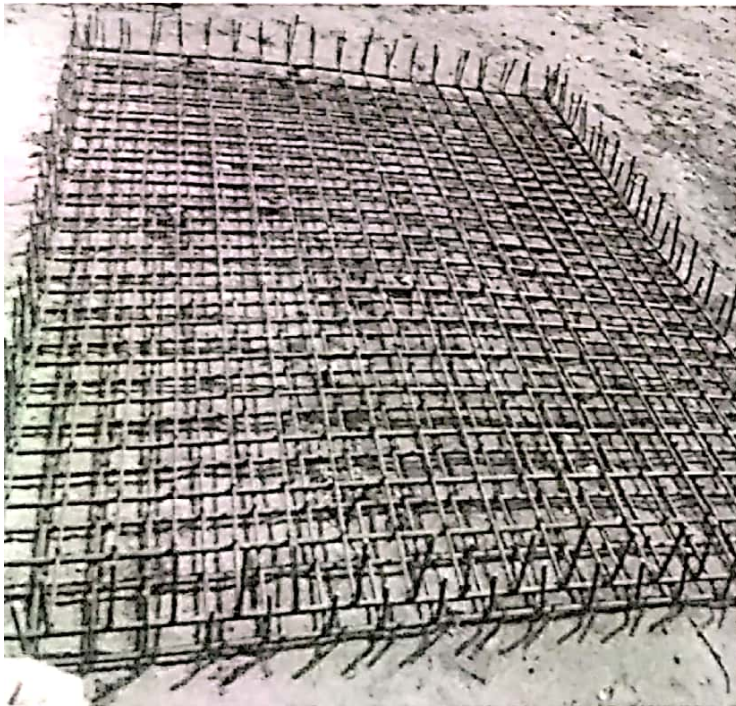
After marking of columns and footing are made, the amount of steel required to resist the upcoming tension and shear force is calculated and designed by the structural designers or engineers by considering all the safety and economical factors.

- For the footing slab bottom and top reinforced steel matt's are provided according to our observations Fe 500 D grade ,20mm dia bars are used for main and distribution matt ,The spacing of stirrups is varied for every column based on shear criteria.
- For column the 30mm dia bars are used and we have observed 2 columns of circular shape with 1.2 m dia for aesthetic purpose is provided.

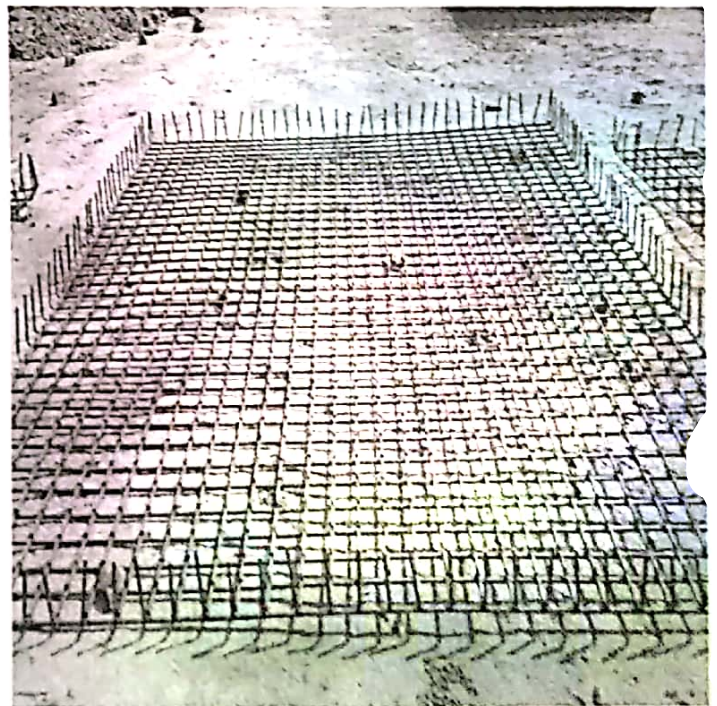


➤ METHOD OF PLACING THE RE-INFORCEMENT

- With the help of skilled labour the fabrication of steel members are made as per the bar bending schedule given by the engineer.
- The levels of the bed concrete are ensured at every corner and sections by the use of levelling staff and dumpy level.
- After obtaining the levelled bed surface place the cover block and bottom steel matt, then place the fabricated column steel on the bottom matt with suitable development length of $49d$ or $50d$ and tie the legs with steel wires for stiff holdings.
- Place the top steel matt and provide the proper shuttering and formworks required for casting concrete for footing slab.
- After casting the slab to the required depth the form work for Column pedestrian is placed and the complete concreting is made for whole length of column by using certain grade of concrete and vibrating devices.



BOTTOM MATT FOR FOOTING SLAB

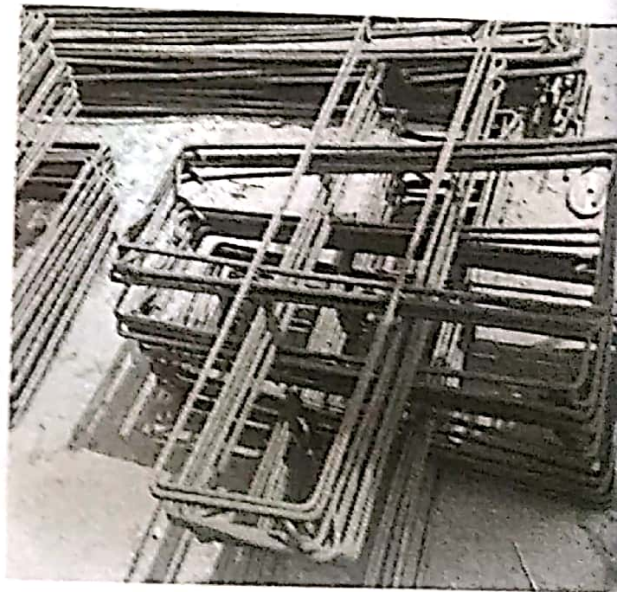


TOP MATT FOR FOOTING



COLUMN FABRICATION MADE BY BAR BENDERS ACCORDING TO SCHEDULES PREPARED BY DESIGNERS.

➤ STIRRUPS



THE ABOVE PICTURE SHOWS THE DETAILS AND BAR BENDING AS PER THE DESIGNERS SCHEDULE OF VERTICAL STIRRUPS FOR COLUMNS AND FOOTING MATTE

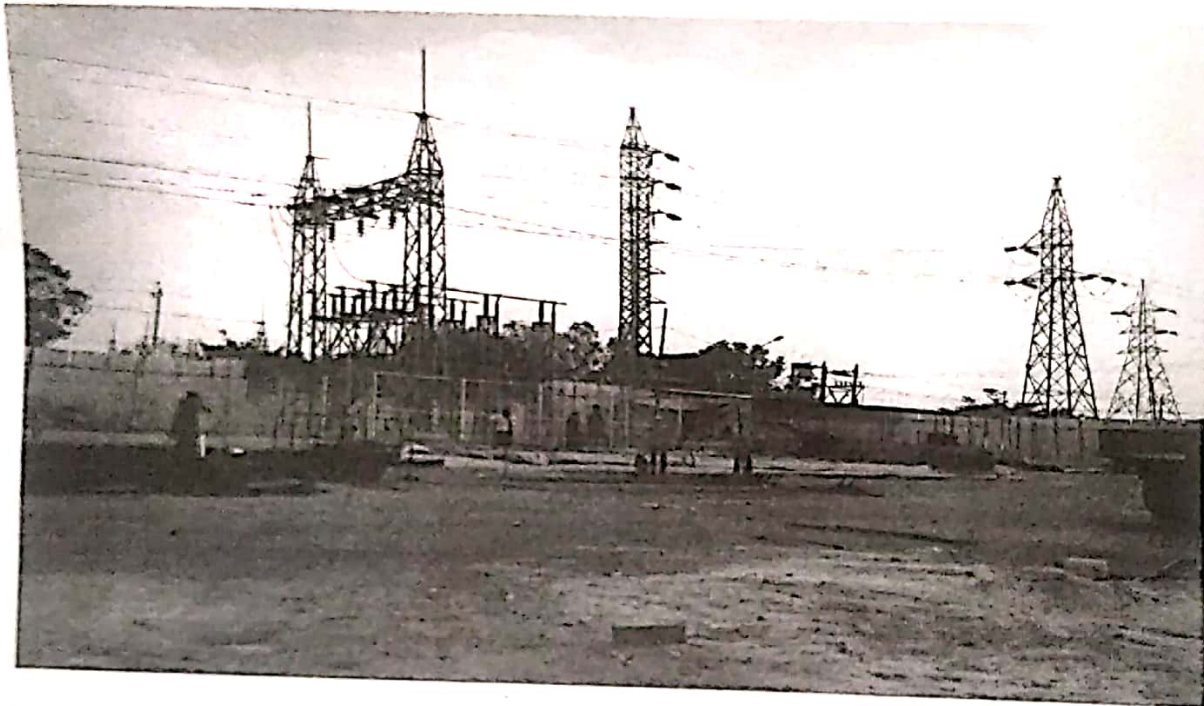
➤ **GRADE OF CONCRETE USED FOR DIFFERENT MEMBERS**

COLUMNS - OPC M 30 grade

BEAMS AND SLAB - OPC M 25 grade

FOOTING SLAB- OPC M 30 grade

PLAIN CONCRETE BED-M10 grade



BLOCK LEVELLING SURVEY CARRIED OUT BY OUR TEAM FOR THE
OUTSIDE PARKING AREA

➤ **RETAINING WALL**

In this site particularly the retaining wall is provided for all outer boundaries of superstructure in order to resist the earth backfill pressure on building. The retaining wall design and every other proposed plans and designs is made by designers group by name C.M.Belekar and Associates which is located in Mumbai.

SITE 2

L I C TRAINING BUILDING AND HOSTELBLOCK

INTRODUCTION

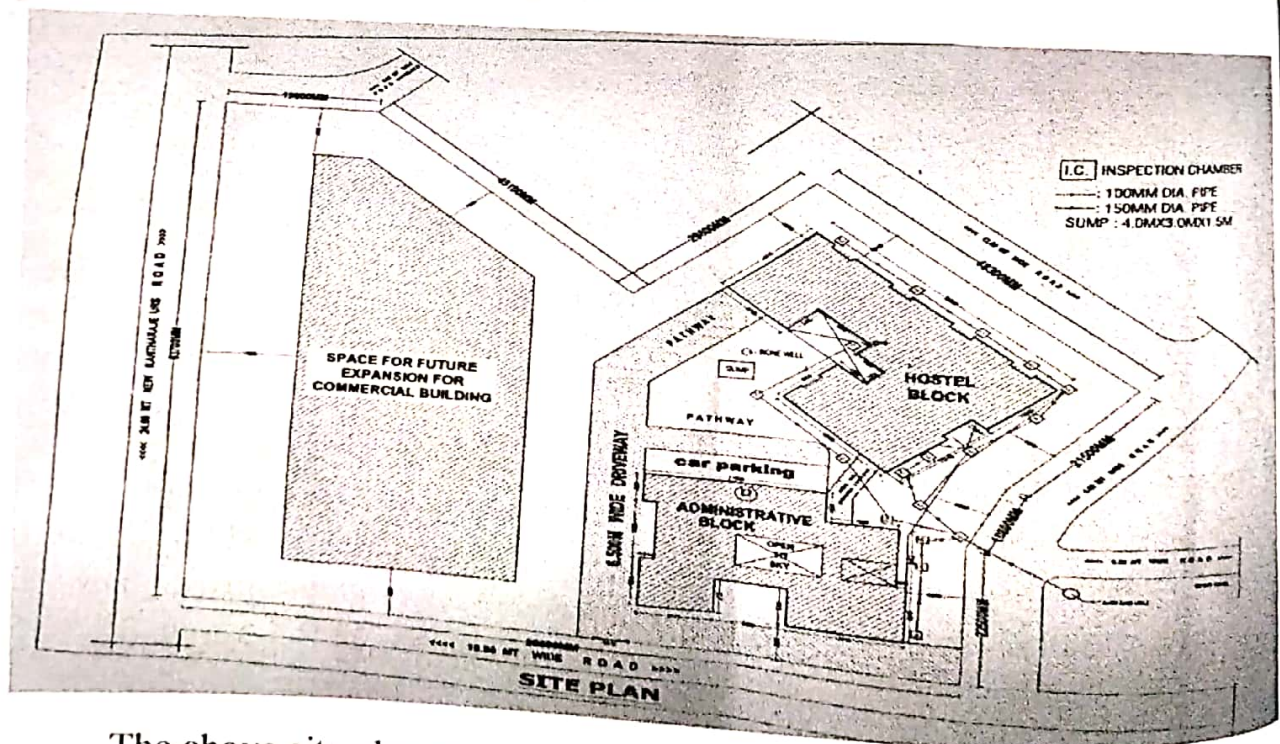
LIFE INSURENCE CORPORATION OF INDIA (LIC)

LIC building is located near Sharadha Devi nagar, 2 nd stage bogadi, Mysore

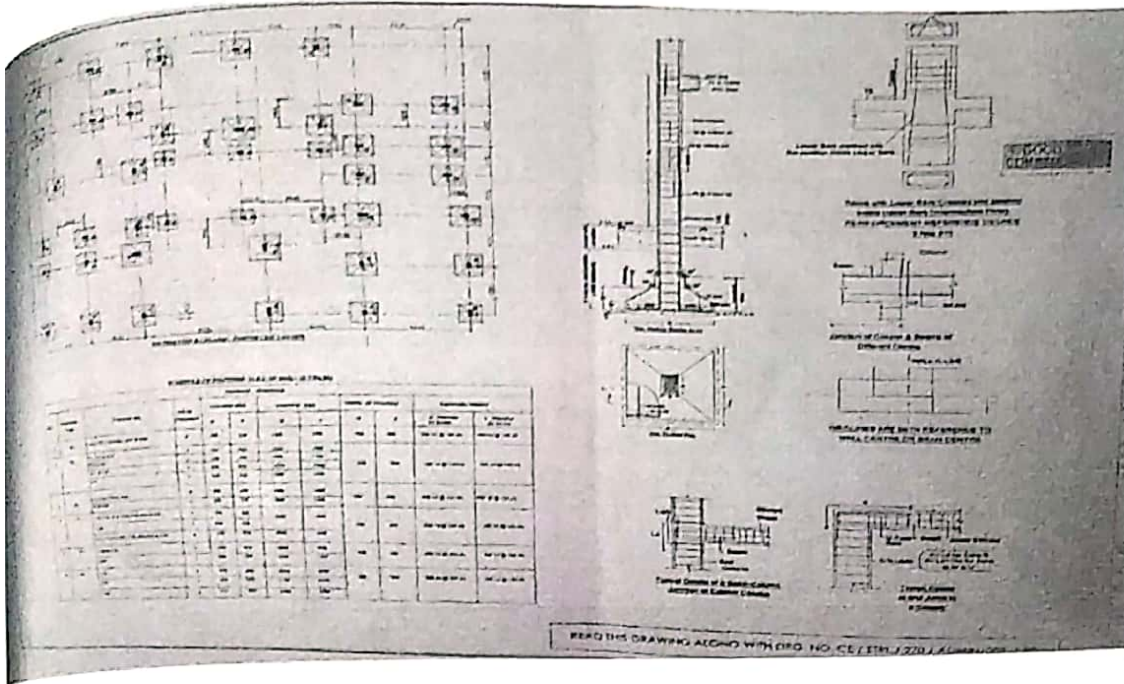
OBSERVATIONS

Day 4 to 6, Date (16/1/17 to 18/01/17)

- As soon as we visited the site the casting of footing, columns and beams with concrete is already executed, so the side wall construction and casting of roof slab is in progress



The above site plan represents the total area required for the construction of Administrative and hostel blocks, also the land required for future expansion

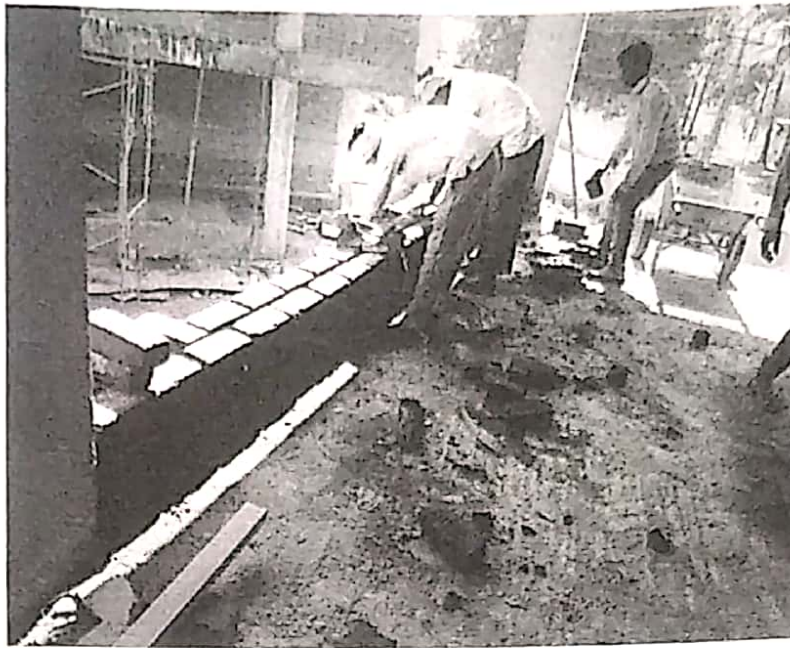


Columns and footings details as per the design requirements

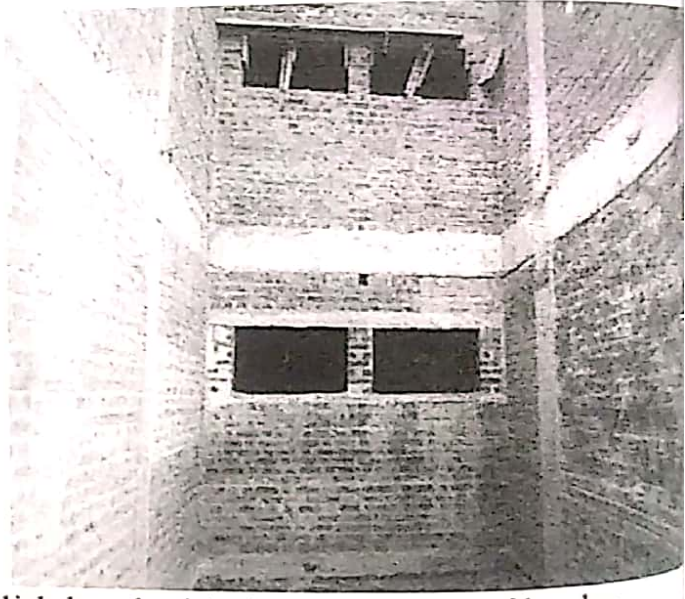
➤ The columns and beams are placed and casted before the construction of main and partition walls

➤ WALLS

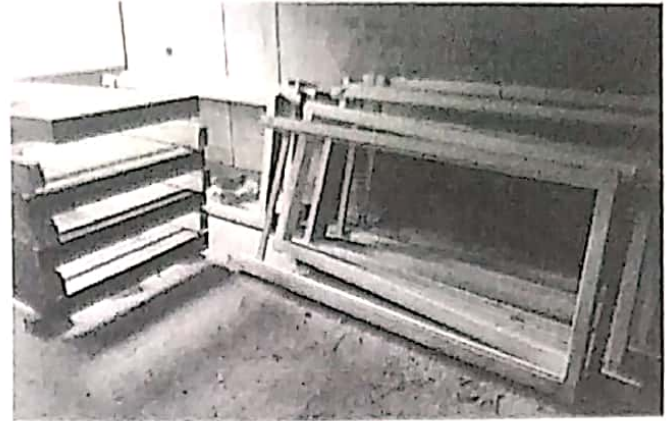
- The walls are constructed using a standard burnt brick of dimension $9 \times 9 \times 19$ cm, this bricks are soaked or watered before laying in coarse layers.
- The wall is constructed by ensuring the level by plumb bob and the bricks are placed with header bond or stretcher bond per the wall thickness required.
- The corners joining the column should be provided with mesh and usage of broken brick bats should be avoided.
- The English bonding is used in the site and the mortar (C M 1:3) should be filled between the gaps (usually 10 to 20 mm).
- The surface between the binding layers is cleared and finished by using trowels and surface finishing tools.



The workers ensures the level for each and adjacent layers after laying the brick coarse. The Floor to floor transportation of bricks is made be hydraulic cranes and wheel barrow



- This brick layers are laid by English bond with alternate layers of header and stretcher connections. In the above pic the right side view shows the change of colour in brick wall due to lack of curing and variation in moisture content between outer and inner side of the wall.



- Construction of Lintel beam over the window opening to avoid the action of load and direct stress distribution on window frame.
- The wooden door frames are placed at respective openings and wood primers are applied to resist termite attacks.



➤ PLASTERING

- The external and internal wall plastering is made in two coats, for external walls the thickness provided is more (10mm) due to consideration of external climatic effects and for internal walls usually 3 to 5mm is sufficient.
- M Sand is used as fine aggregates, it is washed for its application and usage to the plastering and mortar pastes.

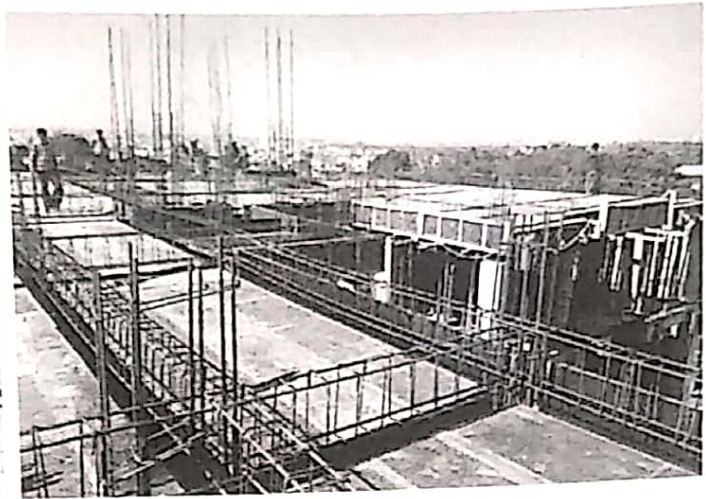
➤ SHUTTERING, FORMWORK AND CENTERING



- The shuttering work is executed to provide a supporting temporary surface or a firm mould which holds the concrete without causing any deflection or deviation in actual dimensions on placing and hardening of concrete
- The centring pole or jack is erected from base slab which supports the struts or temporary beam over a span to hold the shuttering placed to required floor height, for sideways supports wooden or steel shuttering plates are used. The plates should be oiled thoroughly and cover block should be placed.



De shuttering of beams and slabs are done after 10 to 14 days after the placing of concrete and sufficient curing is done, this works are executed manually.



- For columns the shuttering plates are tightened and firmly holded with bolts to avoid bulging or deviation while placing the concrete with vibrators.
- Scaffoldings are built according to the height required for the worker, usually it consists of wooden benches, iron stools etc.
- The T- beam fabrication is made first after placing the shuttering to required depth cover blocks should be placed between the beam reinforcement and shuttering plates.
- Pergola beams are used for aesthetic purposes.

ACKNOWLEDGEMENT

To Bridge the gap between knowledge and Execution we were exposed to two different construction sites and we heart fully convey our thank to all the concerned faculties,

We are grateful to **BAI**, Chairman **Mr.Subramanya N**,

Vice chairman **Mr. Subramanya Rao K**,

Hon. Secretary **Mr. Dinesh B. S**,

Hon. Treasure **Mr. Satish Mohan K** (Mysore center) for providing us an opportunity to take part in the "*Internship programme*" conducted for a period of week.

We would also like to thank the **Principal, HOD**, co- faculties of civil dept. **ATMECE** for allowing us to participate in the internship program.

At both the sites we were able to get valuable insight into various practice applications and witness the procedures of different aspects of building contract, which otherwise would have just remained as theoretical knowledge.

The site Engineer was very knowledgeable and humble enough to provide us the information about anything we asked which is really appreciable.

दक्षिण पश्चिम रेलवे / SOUTH WESTERN RAILWAY

मुख्य कर्मशाला प्रबंधक का कार्यालय,
केन्द्रीय कर्मशाला,
मैसूर दक्षिण.



Office of the Chief Workshop Manager,
Central Workshop,
MysoreSouth.
Dated 07.02.2017

Prof & Head,
Dept. of Mechanical Engg.,
A. T. M. E. College of Engg., Mysore

विषय /Sub : Internship at Central Workshops, South Western Railway, Mysore.
संदर्भ /Ref : 1. Your request for internship dt 29/12/2016
2. WPO/MYSS Lr No. S/P.98/IV/shop visits dt 02/01/2017

महोदय /Sir,

आपकी संस्था के निम्नलिखित छात्रों ने 04/01/2017 से 18/01/2017 तक हमारी स्थापना में इंटरनशिप किया है।

The following students of your institution have undergone internship at our Establishment from 04/01/2017 to 18/01/2017.

Sl. No.	Name / Sri	USN	Class
1.	MAHESH N	4AD15MEO42	III sem BE (Mech)
2.	NITESH H K	4AD15MEO53	
3.	MANOJ KUMAR B M	4AD15MEO48	



(बी. शशिकुमारन नायर)
स का प्र / मैसूर कारखाना
(B. SASIKUMARAN NAIR)
AWM / MYSS

Asst. Works Manager
केन्द्रीय कार्यालय / Central Workshop,
दक्षिण पश्चिम रेलवे, मैसूर-570 001
South Western Railway, MYSORE

दक्षिण पश्चिम रेलवे /SOUTH WESTERN RAILWAY

मुख्य कर्मशाला प्रबंधक का कार्यालय,
केन्द्रीय कर्मशाला,
मैसूर दक्षिण.



Office of the Chief Workshop Manager,
Central Workshop,
MysoreSouth.

No.BTC/25/A/Internship/Vol-I/2016-17/18

Dated 05.08.2016

The Principal,
A . T . M . E / Mysore.

विषय /Sub : Internship at Central Workshops, South Western Railway, Mysore.
संदर्भ /Ref : 1. Your request for internship dt 18/06/2016
2. WPO/MYSS Lr No. S/P.98/IV/shop visits dt 07/07/2016

महोदय /Sir,

आपकी संस्था के निम्नलिखित छात्रों ने 13/07/2016 से 27/07/2016 तक
हमारी स्थापना में इंटरनशिप किया है।

The following students of your institution have undergone internship
at our Establishment from 13/07/2016 to 27/07/2016.

Sl. No.	Name / Sri	USN	Class
1.	NEERAJ M M	4AD13ME060	VII Sem B.E (ME)
2.	NAGARJUN N	4AD13ME057	
3.	PAVAN S P	4AD13ME063	
4.	PRADEEP M G	4AD13ME065	
5.	PRASHANTH H	4AD13ME068	



(बी. शशिकुमारन नायर)
स का प्र / मैसूर कारखाना
(B. SASIKUMARAN NAIR)

AWM / MYSS
सहायक कार्यालय प्रबंधक
Asst. Works Manager
केन्द्रीय कार्यालय / Central Workshop
दक्षिण पश्चिम रेलवे, मैसूर-570 001
South Western Railway, MYSORE

दक्षिण पश्चिम रेलवे / SOUTH WESTERN RAILWAY

मुख्य कर्मशाता प्रबंधक का कार्यालय,
केन्द्रीय कर्मशाता,
मैसूर दक्षिण



Office of the Chief Workshop Manager,
Central Workshop,
MysoreSouth.

No BTC/25/A/Internship/Vol-II/2016-17/13

Dated 02.08.2016

Head of Dept.,
Dept of Mechanical Engg.,
A.T.M.E / Mysore.

- विषय /Sub : Internship at Central Workshops, South Western Railway, Mysore.
संदर्भ /Ref : 1. Your request for internship dt 04/07/2016
2. WPO/MYSS Lr No. S/P.98/IV/shop visits dt 04/07/2016


महोदय /Sir,

आपकी संस्था के निम्नलिखित छात्रों ने 11/07/2016 से 25/07/2016 तक हमारी
स्थापना में इंटरनशिप किया है।

The following students of your institution have undergone internship
at our Establishment from 11/07/2016 to 25/07/2016.

Sl.No.	Name / Sri	USN	Class
1.	AKSHAY KUMAR S	4AD13ME012	VI Sem
2.	NIVEDITHA L	4AD13ME062	B.E (ME)




(बी. शशिकुमारन नायर)
स का प्र / मैसूर कारखाना
(B. SASIKUMARAN NAIR)
AWM / MYSS
for CWM/MYSS
Asst. Works Manager
केंद्रीय कार्यालय / Central Workshop,
दक्षिण पश्चिम रेलवे, मैसूर-570 001
South Western Railway, MYSORE

दक्षिण पश्चिम रेलवे /SOUTH WESTERN RAILWAY

मुख्य कर्मशाखा प्रबंधक का कार्यालय,
केन्द्रीय कर्मशाखा,
मैसूर दक्षिण.



Office of the Chief Workshop Manager,
Central Workshop,
MysoreSouth.

No.BTC/25/A/Internship/Vol-II/2016-17/14

Dated 02.08.2016

Head of Dept.,
Dept of Mechanical Engg,
A . T . M . E / Mysore.

- विषय /Sub : Internship at Central Workshops, South Western Railway, Mysore.
संदर्भ /Ref : 1. Your request for internship dt 04/07/2016
2. WPO/MYSS Lr No. S/P.98/IV/shop visits dt 04/07/2016


महोदय /Sir,

आपकी संस्था के निम्नलिखित छात्रों ने 11/07/2016 से 25/07/2016 तक हमारी स्थापना में इंटरनशिप किया है।

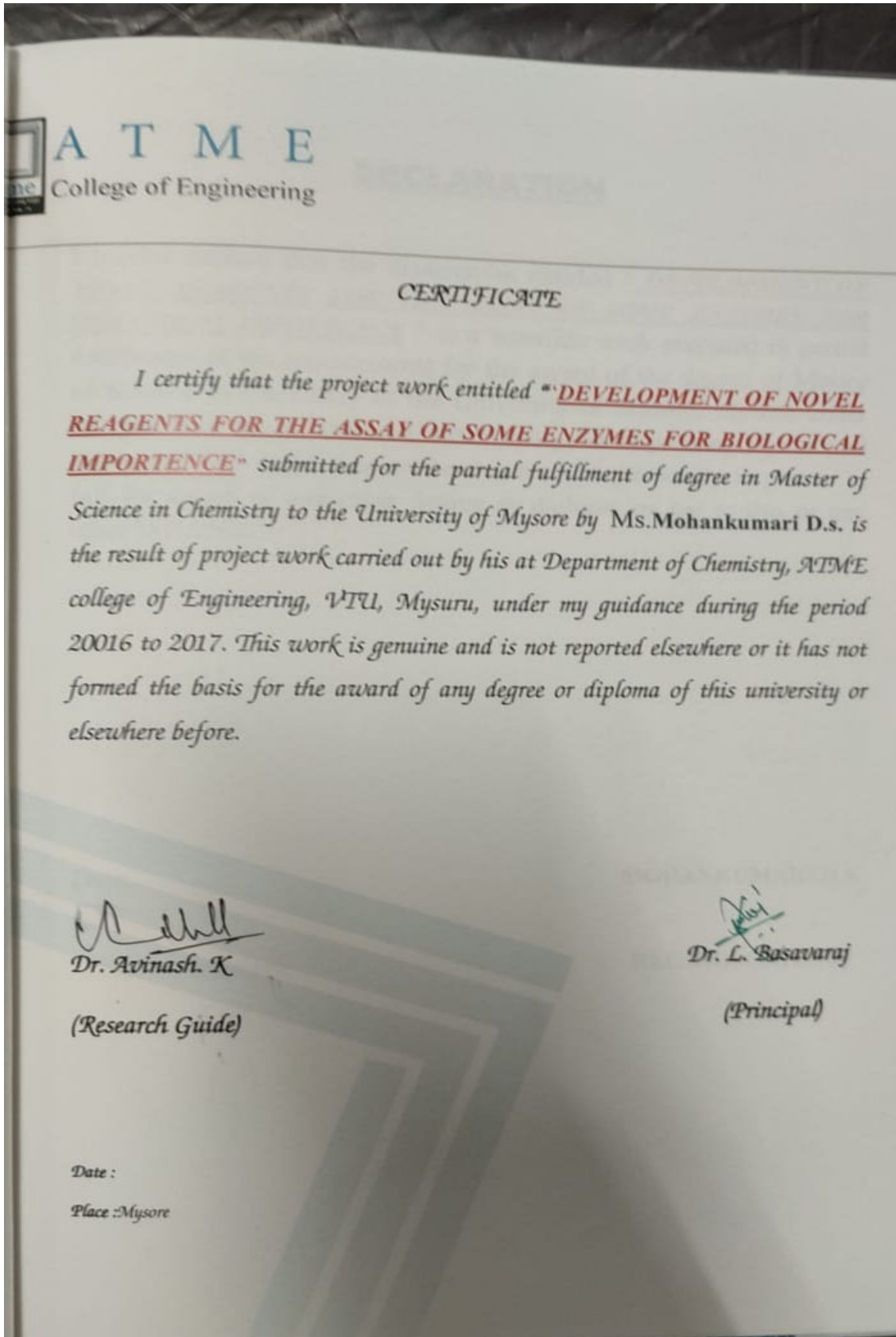
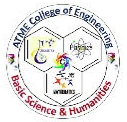
The following students of your institution have undergone internship at our Establishment from 11/07/2016 to 25/07/2016.

Sl.No.	Name / Sri	USN	Class
1.	SHARON MARKUS	4AD14ME058	IV Sem
2.	PRASHANTH N S	4AD14ME047	B.E (ME)




(बी. शशिकुमारन नायर)
स का प्र / मैसूर कारखाना
(B. SASIKUMARAN NAIR)
AWM / MYSS

Asst. Works Manager
केन्द्रीय कारखाना / Central Workshop
दक्षिण पश्चिम रेलवे, मैसूर-570 00
South Western Railway, MYSORE



A T M E
College of Engineering

CERTIFICATE

I certify that the project work entitled "DEVELOPMENT OF NOVEL REAGENTS FOR THE ASSAY OF SOME ENZYMES FOR BIOLOGICAL IMPORTANCE" submitted for the partial fulfillment of degree in Master of Science in Chemistry to the University of Mysore by Ms. Mohankumari D.S. is the result of project work carried out by her at Department of Chemistry, ATME college of Engineering, VTU, Mysuru, under my guidance during the period 20016 to 2017. This work is genuine and is not reported elsewhere or it has not formed the basis for the award of any degree or diploma of this university or elsewhere before.

Dr. Avinash. K

(Research Guide)

Dr. L. Sasavaraj

(Principal)

Date :

Place : Mysore

