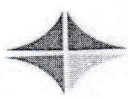


PROPOSAL LETTER



**PRINSTON SMART ENGINEERS**

Office:  
Joseph Layout, 1<sup>st</sup> Cross  
2<sup>nd</sup> Floor, Begur Road  
Near Canara Bank  
Bangalore

SUBJECT: Requesting for HVAC Workshop Approval

SIR, Greetings!

The extra-curricular activities for the students have proven to contribute much to their social well- being. It is also a portal where the students could express and show out their output in relation to what is being learned in the classroom.

In view of this we would like to request you to allow us to conduct a workshop with the given theme: 'HVAC Design, MEP, Duct Sizer, HAP Software' to be facilitated to the 2<sup>nd</sup> year, 3<sup>rd</sup> year and 4<sup>th</sup> year Students.

Hoping for your favorable response about the matter.

Regards,

Asif

CEO

Prinston Smart Engineers

*Forwarded to Principal Sir for needfull action*

*Chakrabarti 2/14/19*

College:

**Professor & Head**  
Department Of Mechanical Engineering  
K.S. Group Of Institutions

Signature:

K.S. School Of Engineering & Management  
Bangalore-560 109

Company:

Signature:



*It is a regular workshop  
Requested to Approve  
K. Rana*

*Saved by  
K. Rana  
3.4.19*



# PRINSTON SMART ENGINEERS



## 3 DAYS WORKSHOP ON HVAC DESIGN

### Program Schedule and Outcome

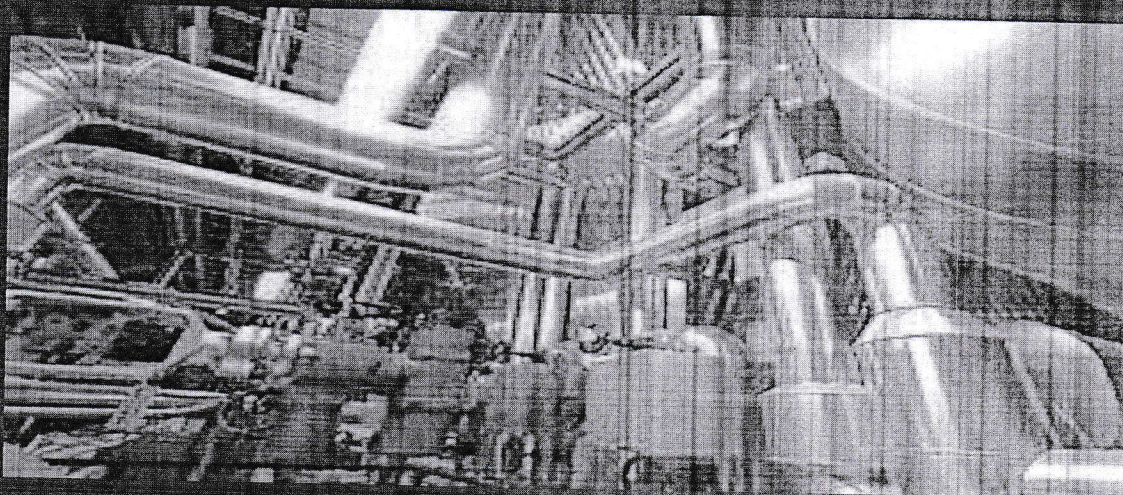
What Is HVAC?

H- Heating

V- Ventilation

A- Air

C- Conditioning



### SESSION PLAN

Day-1 Start TIME: 9:30AM	Day-2 Start TIME: 9:30AM	Day-3 Start TIME: 9:30AM
Session-1: 9:30AM to 1:00 PM	Session-3: 9:30AM to 1:00 PM	Session-5: 9:30AM to 1:00 PM
MID-Break time: 11:00 AM TO 11:10AM	MID-Break time: 11:00 AM TO 11:10AM	MID-Break time: 11:00 AM TO 11:10AM
LUNCH BREAK: 1:00 PM TO 1:30 PM	LUNCH BREAK: 1:00 PM TO 1:30 PM	LUNCH BREAK: 1:00 PM TO 1:30 PM
Session-2: 1:30 PM TO 4:30 PM	Session-4: 1:30 PM TO 4:30 PM	Session-6: 1:30 PM TO 4:30 PM
CLASSROOM REQUIRED	LAB + PROJECTOR REQUIRED	CLASSROOM + PROJECTOR REQUIRED

## **DAY- 1 - MAIN CONTENTS**

### **MAIN CONTENTS OF HVAC DESIGN TRAINING**

- ✓ Introduction into the Field of MEP
- ✓ Codes and Standards using in HVAC design, Electrical design,
  - ✓ Plumbing design and firefighting design.
- ✓ Importance of MEP Industry in Construction and Infrastructure Design.
  - ✓ Job nature and job roles of Engineers in MEP Industry.
  - ✓ Refrigeration cycle and major components.
- ✓ Briefing about refrigerants using in air conditioning field.

### **MAJOR CONTENTS:**

- ✓ Assigning a layout or Architect Plan for the students.
- ✓ Overview of HAP software and softwares used in HVAC Design.
- ✓ Load calculation using E20 method by considering a real project on various types of Buildings i.e. Residential, Commercial and Industrial.
- ✓ As a result of this load calculation we will get required TR and CFM for each and every space.

## **DAY- 2 - MAIN CONTENTS**

- ✓ As per the calculated TR and CFM for each and every space we will check for the requirement of Centralized air conditioning system.
- ✓ If there is requirement for centralized air conditioning system we can move into ducting.
- ✓ Then Introduction about the Centralized air conditioning system.

- ✓ Type of Outdoors (DX, VRF, Chillers), Selection of Outdoor as per the total Capacity and chiller design.
  - ✓ Briefing about cooling tower and equipment placement.
  - ✓ Selection of AHU for the calculated total CFM requirement.
  - ✓ Explanation on Codes and standards should be used and considerations as per the building types.
  - ✓ SLD for each and every space as per the Tr and Cfm.
    - ✓ Conversion of SLD to 2d.
    - ✓ Basic conversions.
    - ✓ Duct sizing in Manual method.
- ✓ Duct sizing using duct sizer software for the same project assigned to the students.
  - ✓ Assigning a new project to practice the trained concepts.
- ✓ After giving a duct layout asking them to find duct sizes in software and manual once again.
  - ✓ Briefing about the fittings and various types of fittings.
  - ✓ Where to consider and what is the benefits of using fittings.
  - ✓ How to select reducer, conditions and codes and standards.
  - ✓ Insulations, codes and standards and types of insulation.
    - ✓ Air terminals.
- ✓ Sizing of air terminals and various types of air terminals.
  - ✓ Installation of air terminal and considerations.
    - ✓ Briefing about ventilation, kitchen hood,
- ✓ Performing calculation on Toilet ventilation, commercial kitchen ventilation and car parking ventilation.

✓ BOQ.

- ✓ Giving an overview about Revit software and requirements in MEP industry.

### **DAY- 3 - MAIN CONTENTS**

- ✓ After giving a duct layout asking them to find duct sizes in software and manual once again.
- ✓ Briefing about the fittings and various types of fittings.
- ✓ Where to consider and what is the benefits of using fittings.
- ✓ How to select reducer, conditions and codes and standards.
- ✓ Insulations, codes and standards and types of insulation.
  - ✓ Air terminals.
- ✓ Sizing of air terminals and various types of air terminals.
  - ✓ Installation of air terminal and considerations.
  - ✓ Briefing about ventilation, kitchen hood,
- ✓ Performing calculation on Toilet ventilation, commercial kitchen ventilation and car parking ventilation.
- ✓ Giving an overview about Revit software and requirements in MEP industry.

### **How Trainee Benefits?**

Finally,

As a result of this training they can have the complete knowledge on HVAC designing, MEP Industry, Job roles, Job nature of MEP engineers, Facility management and they can design and execute the entire things related to HVAC for any kind of Buildings

as a result of this workshop, participants will be having the complete knowledge about the HVAC design in infrastructure industry and they can start working in an exact HVAC design project

The participants for the Training program can look forward for a challenging position in Engineering Consulting & Construction Companies for different residential, commercial and industrial projects. Work in multi – trillion-dollar building services construction industry in India & Gulf Countries as ....

- ❖ Design Engineers, Testing & Commissioning
- ❖ Project/Procurement (Site Engineers),
- ❖ Estimation, Co-ordination Engineers
- ❖ Sales Engineers
- ❖ Maintenance Engineers.

**Prinston-Smart Engineers**

**Training and Development Department.**

**Email: [asif@prinstonsmart.com](mailto:asif@prinstonsmart.com)**

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**K.S. SCHOOL OF ENGINEERING AND MANAGEMENT  
BENGALURU 560 109**

**KSSEM**

**DEPARTMENT OF MECHANICAL ENGINEERING**

08/04/2019

**HVAC WORKSHOP PROGRAM ATTENDANCE DETAILS**

**6TH SEMESTER STUDENTS LIST**

SL NO	USN	NAME	FORENOON SESSION	AFTERNOON SESSION	STUDENT SIGNATURE
1	1KG15ME039	Rohan S	✓	✓	<del>Prohary</del> Prohary
2	1KG16ME008	Byregowda M	✓	✓	<del>Byregowda</del> Byregowda
3	1KG16ME010	Chandrashekar M M	✓	✓	<del>Chandrashekar</del> Chandrashekar
4	1KG16ME011	Chandrashekar K S	✓	✓	<del>Chandrashekar</del> Chandrashekar
5	1KG16ME022	Sanath Kumar K S	✓	✓	<del>Sanath</del> Sanath
6	1KG16ME023	Karthik K J	✓	✓	<del>Karthik</del> KARTHIC
7	1KG16ME024	Kushal K Shetty	✓	✓	<del>Kushal K Shetty</del> Kushal K Shetty
8	1KG16ME025	Madhuchandra S	✓	✓	<del>Madhu.s</del> Madhus
9	1KG16ME028	Nithya M S	✓	✓	<del>N.S. Nithya</del> N.S. Nithya
10	1KG16ME032	Pratheek babu J	✓	✓	<del>J.Pratheek Babu</del> J.Pratheek Babu
11	1KG16ME033	Praveen Kumar B	✓	✓	<del>B.Praveen Kumar</del> B.Praveen Kumar
12	1KG16ME038	Ritik Singh	✓	✓	<del>Ritikingu</del> Ritikingu
13	1KG16ME040	Roopesh G R	✓	✓	<del>Roopesh</del> Roopesh
14	1KG16ME035	Robul kumar	✓	✓	<del>Robul</del> Robul
15	1KG16ME044	Sajith Rajamhan	✓	✓	<del>Sajith</del> Sajith
16	1KG16ME052	Umesh A	✓	✓	<del>Umesh</del> Umesh
17	1KG17ME404	SANJAY N	✓	✓	<del>Sanjay</del> Sanjay

**4TH SEMESTER STUDENTS LIST**

SL NO	USN	NAME	FORENOON SESSION	AFTERNOON SESSION	STUDENT SIGNATURE
1	1KG16ME001	Abhijiyh Jayaram	✓	✓	<del>Abhijiyh</del> Abhijiyh
2	1KG16ME019	Jagruth	✓	✓	<del>Jagruth</del> Jagruth
3	1KG17ME039	Syed Tousif	✓	✓	<del>Syed Tousif</del> Syed Tousif
4	1KG17ME045	Veeresh Hiremath	✓	✓	<del>Veeresh</del> Veeresh
5	1KG17ME018	Mahendra S	✓	✓	<del>Mahendra</del> Mahendra
6	1KG17ME024	Praveen N	✓	✓	<del>Praveen N</del> Praveen N
7	1KG17ME013	Karthik. h	✓	✓	<del>Karthik</del> Karthik
8	1KG17ME004	AKSHAY Kumar P.N	✓	✓	<del>AKSHAY</del> AKSHAY



Kammavari Sangham (R), Bangalore

**K.S. SCHOOL OF ENGINEERING AND MANAGEMENT  
BENGALURU 560 109**

**KSSEM**

**DEPARTMENT OF MECHANICAL ENGINEERING**

DATE: 09/04/2019

**HVAC WORKSHOP PROGRAM ATTENDANCE DETAILS**

**6TH SEMESTER STUDENTS LIST**

SL NO	USN	NAME	FORENOON SESSION	AFTERNOON SESSION	STUDENT SIGNATURE	
1	1KG15ME039	Rohan S	✓	✓	<i>Rohan</i>	<i>Rohan</i>
2	1KG16ME008	Byregowda M	✓	✓	<i>Byregowda</i>	<i>Byregowda</i>
3	1KG16ME010	Chandrashekar M M	✓	✓	<i>Chandrashekar</i>	<i>Chandrashekar</i>
4	1KG16ME011	Chandrashekar K S	✓	✓	<i>Chandrashekar</i>	<i>Chandrashekar</i>
5	1KG16ME022	Sanath Kumar K S	✓	✓	<i>Sanath</i>	<i>Sanath</i>
6	1KG16ME023	Karthik K J	✓	✓	<i>Karthik</i>	<i>Karthik</i>
7	1KG16ME024	Kushal K Shetty	✓	✓	<i>Kushal K Shetty</i>	<i>Kushal K Shetty</i>
8	1KG16ME025	Madhuchandra S	✓	✓	<i>Madhus</i>	<i>Madhus</i>
9	1KG16ME028	Nithya M S	✓	✓	<i>Nithya</i>	<i>Nithya</i>
10	1KG16ME032	Pratheek babu J	✓	✓	<i>P. Pratheek</i>	<i>P. Pratheek</i>
11	1KG16ME033	Praveen Kumar B	✓	✓	<i>B. Praveen</i>	<i>B. Praveen</i>
12	1KG16ME038	Ritik Singh	✓	✓	<i>Ritik Singh</i>	<i>Ritik Singh</i>
13	1KG16ME040	Roopesh G R	✓	✓	<i>Roopesh</i>	<i>Roopesh</i>
14	1KG16ME035	Rahul kumar	✓	✓	<i>Rahul</i>	<i>Rahul</i>
15	1KG16ME044	Sajith Rajamhan	✓	✓	<i>Sajith</i>	<i>Sajith</i>
16	1KG16ME052	Umesh A	✓	✓	<i>Umesh</i>	<i>Umesh</i>
17	1KG17ME404	SANJAY N	✓	✓	<i>Sanjay</i>	<i>Sanjay</i>

**4TH SEMESTER STUDENTS LIST**

SL NO	USN	NAME	FORENOON SESSION	AFTERNOON SESSION	STUDENT SIGNATURE	
1	1KG16ME001	Abhijith Jayaram	✓	✓	<i>Abj</i>	<i>Abj</i>
2	1KG16ME019	Jagruth	✓	✓	<i>Jagruth</i>	<i>Jagruth</i>
3	1KG17ME039	Syed Tousif	✓	✓	<i>Syed</i>	<i>Syed</i>
4	1KG17ME045	Veeresh Hiremath	✓	✓	<i>Veeresh</i>	<i>Veeresh</i>
5	1KG17ME018	Mahendra S	✓	✓	<i>Mahendra</i>	<i>Mahendra</i>
6	1KG17ME024	Praveen N	✓	✓	<i>Praveen</i>	<i>Praveen</i>
7	1KG17ME013	Karthika	✓	✓	<i>Karthika</i>	<i>Karthika</i>
8	1KG17ME004	Akshay Kumar P N	✓	✓	<i>Akshay</i>	<i>Akshay</i>





Kammavari Sangham (R), Bangalore

**K.S. SCHOOL OF ENGINEERING AND MANA  
BENGALURU 560 109**

**KSSEM**

**DEPARTMENT OF MECHANICAL ENGINEE**

10/4/19

**HVAC WORKSHOP PROGRAM ATTENDANCE DETAILS**

**6TH SEMESTER STUDENTS LIST**

SL NO	USN	NAME	FORENOON SESSION	AFTERNOON SESSION
1	1KG15ME039	Rohan S	✓	<del>Bohany</del> <del>Bohany</del>
2	1KG16ME008	Byregowda M	✓	<del>Byregowda</del> <del>Byregowda</del>
3	1KG16ME010	Chandrashekar M M	✓	<del>Chandrashekar</del> <del>Chandrashekar</del>
4	1KG16ME011	Chandrashekar K S	✓	<del>Chandrashekar</del> <del>Chandrashekar</del>
5	1KG16ME022	Sanath Kumar K S	✓	<del>Sanath</del> <del>Sanath</del>
6	1KG16ME023	Karthik K J	✓	<del>Karthik</del> <del>Karthik</del>
7	1KG16ME024	Kushal K Shetty	✓	<del>Kushal K Shetty</del> <del>Kushal K Shetty</del>
8	1KG16ME025	Madhuchandra S	✓	<del>Madhu.s</del> <del>Madhu.s</del>
9	1KG16ME028	Nithya M S	✓	<del>N.S. Nithya</del> <del>N.S. Nithya</del>
10	1KG16ME032	Pratheek babu J	✓	<del>J. Prath Babu</del> <del>J. Prath Babu</del>
11	1KG16ME033	Praveen Kumar B	✓	<del>B. Praveen</del> <del>B. Praveen</del>
12	1KG16ME038	Ritik Singh	✓	<del>Riticharya</del> <del>Riticharya</del>
13	1KG16ME040	Roopesh G R	✓	<del>Roopesh</del> <del>Roopesh</del>
14	1KG16ME035	Rahul kumar	✓	<del>Rahul</del> <del>Rahul</del>
15	1KG16ME044	Sajith Rajamhan	✓	<del>Sajith</del> <del>Sajith</del>
16	1KG16ME052	Umesh A	✓	<del>Umesh A</del> <del>Umesh A</del>
17	1KG17ME404	SANJAY N	✓	<del>Sanjay</del> <del>Sanjay</del>

**4TH SEMESTER STUDENTS LIST**

SL NO	USN	NAME	FORENOON SESSION	AFTERNOON SESSION
1	1KG16ME001	Abhijiyh Jayaram	✓	<del>Abhijiyh</del> <del>Abhijiyh</del>
2	1KG16ME019	Jagruth	✓	<del>Jagruth</del> <del>Jagruth</del>
3	1KG17ME039	Syed Tousif	✓	<del>Syed Tousif</del> <del>Syed Tousif</del>
4	1KG17ME045	Veeresh Hiremath	✓	<del>Veeresh</del> <del>Veeresh</del>
5	1KG17ME018	Mahendra S	✓	<del>Mahendra</del> <del>Mahendra</del>
6	1KG17ME024	Praveen N	✓	<del>Praveen N</del> <del>Praveen N</del>
7	1KG17ME013	Karthik . G	✓	<del>Karthik</del> <del>Karthik</del>
8	1KG17ME004	Akshay kumar P N	✓	<del>Akshay</del> <del>Akshay</del>



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**DEPARTMENT OF MECHANICAL ENGINEERING**

**HVAC WORKSHOP PROGRAM ATTENDANCE DETAILS**

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SL NO	USN	NAME	FORENOON SESSION	AFTERNOON SESSION	STUDENT SIGNATURE
1	1KG15ME039	Rohan S			
2	1KG16ME008	Byregowda M	✓		<i>[Signature]</i>
3	1KG16ME010	Chandrashekar M M			
4	1KG16ME011	Chandrashekar K S			
5	1KG16ME022	Sanath Kumar K S			
6	1KG16ME023	Karthik K J			
7	1KG16ME024	Kushal K Shetty			
8	1KG16ME025	Madhuchandra S			
9	1KG16ME028	Nithya M S			
10	1KG16ME032	Pratheek babu J			
11	1KG16ME033	Praveen Kumar B			
12	1KG16ME038	Ritik Singh			
13	1KG16ME040	Roopesh G R			
14	1KG16ME035	Ruhul kumar			
15	1KG16ME044	Sajith Rajamhan			
16	1KG16ME052	Umesh A			
17	1KG17ME404	SANJAY N			

**4TH SEMESTER STUDENTS LIST**

SL NO	USN	NAME	FORENOON SESSION	AFTERNOON SESSION	STUDENT SIGNATURE
1	1KG16ME001	Abhijiyh Jayaram			
2	1KG16ME019	Jagruth			
3	1KG17ME039	Syed Tousif			
4	1KG17ME045	Veeresh Hiremath			
5	1KG17ME018	Mahendra S			
6	1KG17ME024	Praveen N			

# PARTICIPANT FORM

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BRANCH: MECHANICAL SEMESTER: VI

SL.NO	STUDENT NAME	MOBILE NO	EMAIL ID
1.	Chandra Shekhar	8123523666	
2.	Hemanth . H	7838323725	
3.	Pratheek . J	8884331333	pratheekbabuj@gmail.com
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6.	Tejas Raj G	9611671869	tejasace96@gmail.com
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13.	Roham Sapkal	9731744527	sobanspk111@gmail.com
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COLLEGE NAME: KSSEM COURSE NAME: .....

BRANCH: MECHANICAL SEMESTER: VI

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1.	M.S.NITHYA	8792813355	nithyamakamsrinath26@gmail.com
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5.	Praveen Kumar	9972347024	praveenbodapati800@gmail.com
6.	Dhiraj.P	9066800751	dhirajp.1997@gmail.com
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8.	Ritik.Singh	8217455219	ritiksingh022017@gmail.com
9.	Umesh.A	8123636639	aumeshamul@gmail.com
10.	Ajay Kumar B	9743894743	ajaykumarB561@gmail.com
11.	Abhishek	9741132130	abhi034669@gmail.com
12.	Karthik.K.J	7760183629	Karthik K.J 1819@gmail.com Karthik K.J
13.			
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17.			
18.			
19.			
20.			

4<sup>th</sup> Sem

PRINSTON SMART  
ENGINEERS



PARTICIPANT FORM

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COLLEGE NAME: ..... COURSE NAME: .....  
BRANCH: ..... SEMESTER: IV .....

SL.NO	STUDENT NAME	MOBILE NO	EMAIL ID
1.	B. Sri Hari	9185 873971	nasiprabha33>@gmail.com
2.	G. Karthik	7981055251	gokipatikarthik@gmail.com
3.	PRAVEEN.N	9686723365	Praveenn2018@gmail.com
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5.	Yogesh.S	6360269556	Yogeshyogi431@gmail.com
6.	Devendra.S	9449412103	devendra561999@gmail.com
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8.	ve		
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10.			
11.			
12.			
13.			
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17.			
18.			
19.			
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4<sup>th</sup> SemPRINSTON SMART  
ENGINEERSPARTICIPANT FORMMob: 09810188747 Email: [asif@prinstonsmart.com](mailto:asif@prinstonsmart.com) Website: [www.prinstonsmart.com](http://www.prinstonsmart.com)COLLEGE NAME: KSSEM COURSE NAME: .....

SL.NO	STUDENT NAME	MOBILE NO	EMAIL ID
1.	BALA BABU BHARGAV	9900425589	bala.babu.bhargav@gmail.com
2.	NIKITH Reddy . P	8105467111	NIKITH Reddyo 40 @ymail.com
3.	Abhijith . J	8782808295	abhi2 kothu @ gmail.com
4.	Jagruth . N	974811982	goud Jagruth 48 @gmail.com
5.	Navneeth S	9740755191	navneethshetty1999@gmail.com
6.	AKASH J NAYAK	6361470311	akashjnayak98@gmail.com
7.	Syed Tauqif		
8.	Veeresh. S. Hiremath	7353947033	veereshsh 775 @gmail.com
9.	Mahendran. S	9066934128	ms 9638166 @ gmail.com
10.	Praveen . N	9686723365	Praveenn2018 @ gmail.com
11.			
12.			
13.			
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# WORKSHOP ON HEATING VENTILATION AND AIR CONDITIONING


**08-10<sup>th</sup> APRIL 2019, ME**

Department of *Mechanical Engineering* organized 3 days of workshop on "Heating Ventilation And Air Conditioning" in April 2019 for 2<sup>nd</sup> and 3<sup>rd</sup> year students. The session was conducted by Farheen Farhath, Prinston Smart Engineers.

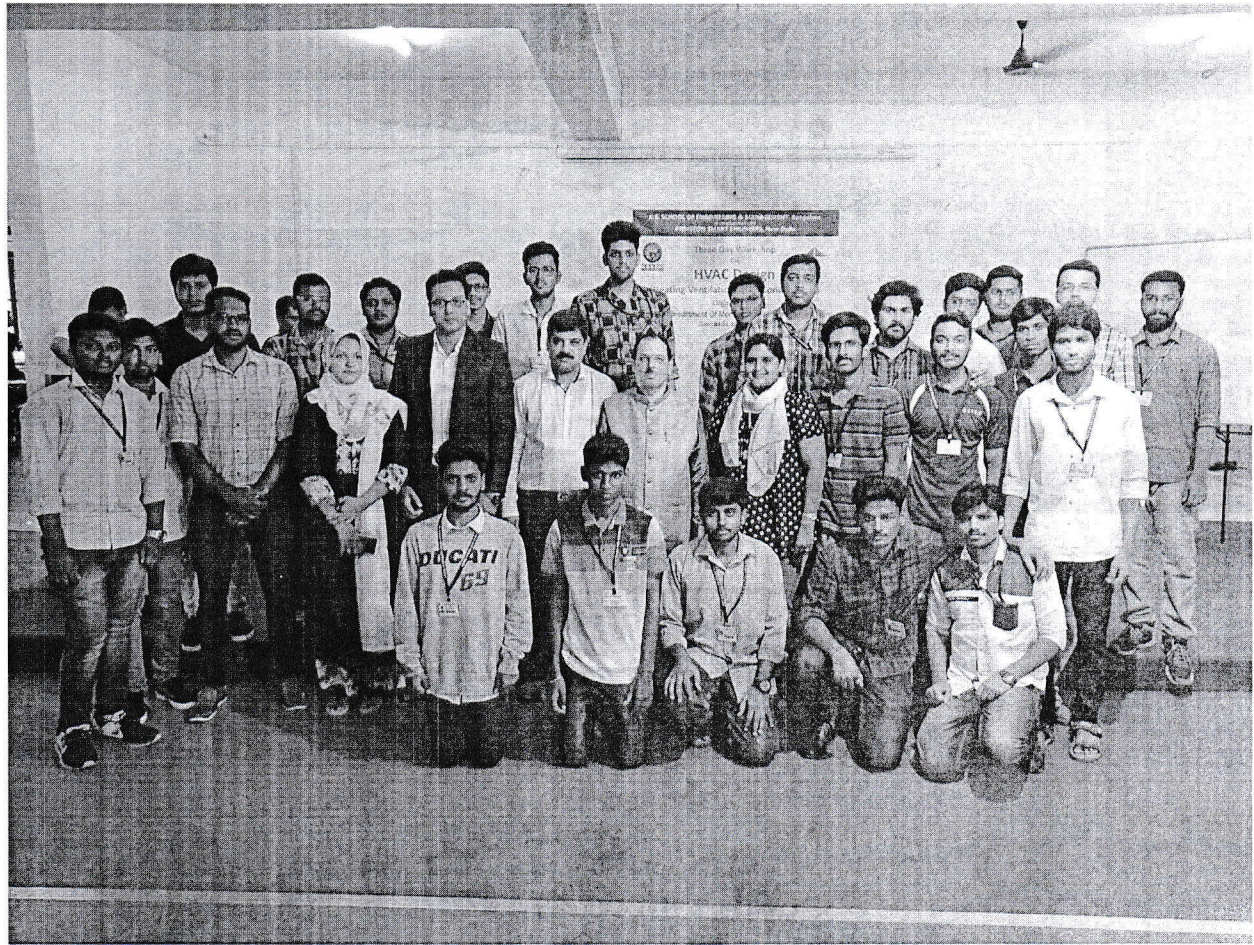
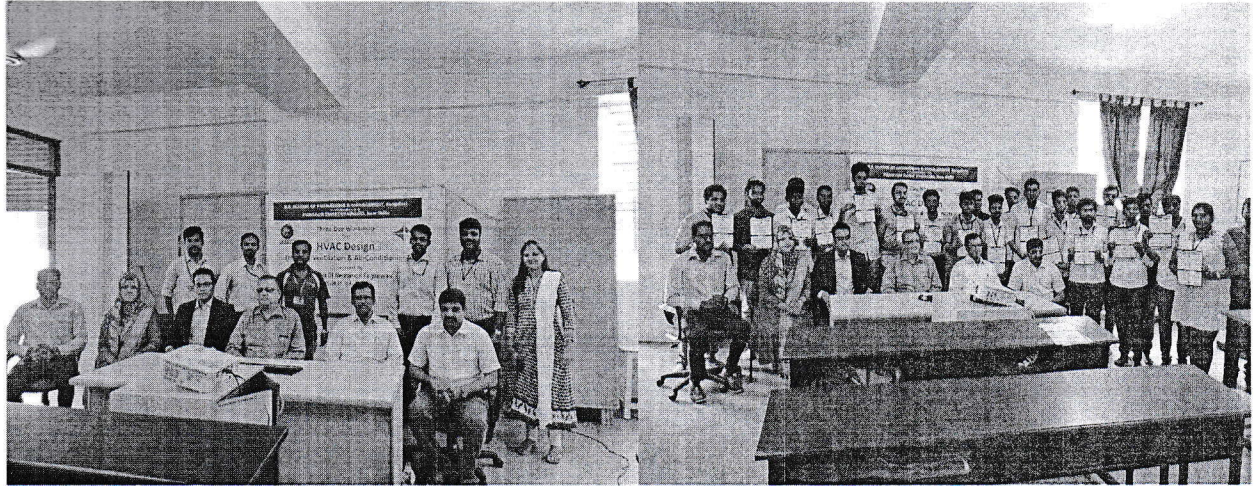
## ABSTRACT

Heating Ventilation And Air Conditioning (HVAC) is a technology of indoor and vehicular design for thermal comfort. HVAC is required for maintaining proper heat and ventilation in a closed area. Workshop on HVAC thought us the need for ventilation, calculation of loads, role of an engineer for plumbing, fire fighting, work of an HVAC engineer, refrigeration cycle, calculation of total ton of refrigeration for closed system, ventilation requirement calculations for a building, fabrications, types of ducts, unit conversion, duct sizing, fittings and duct sizer software.

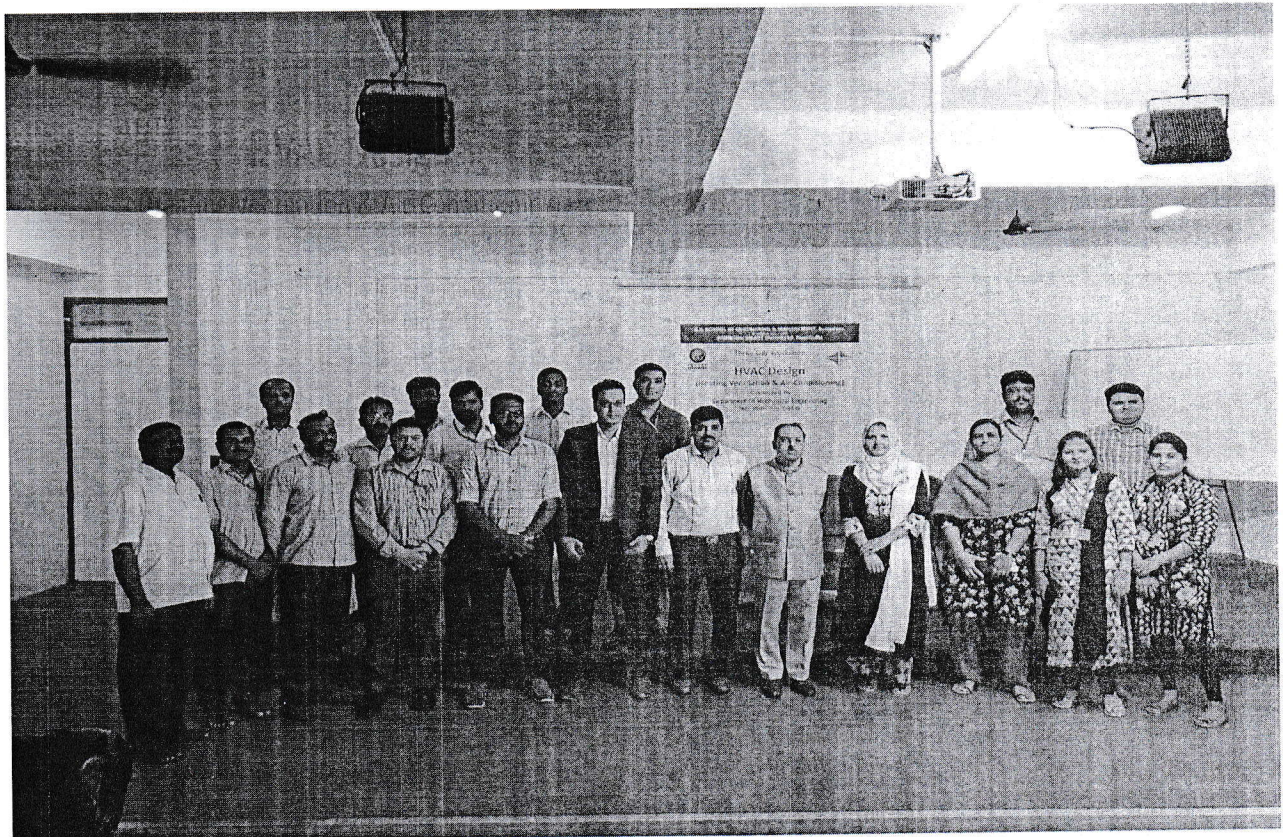
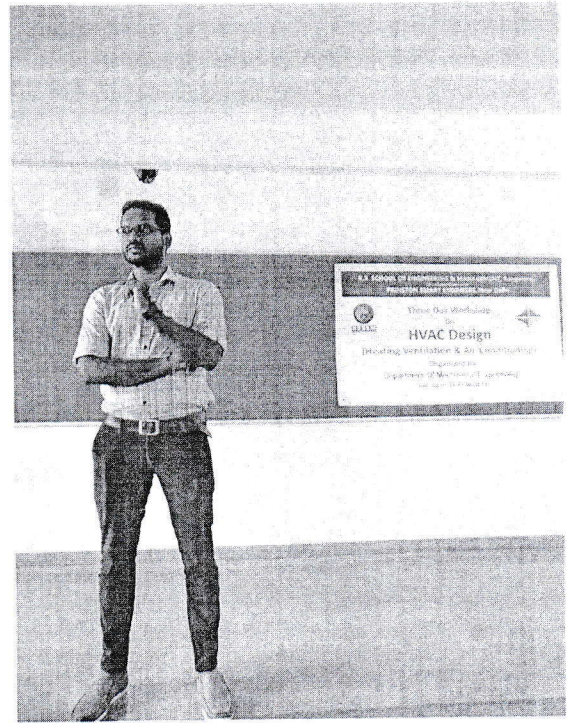
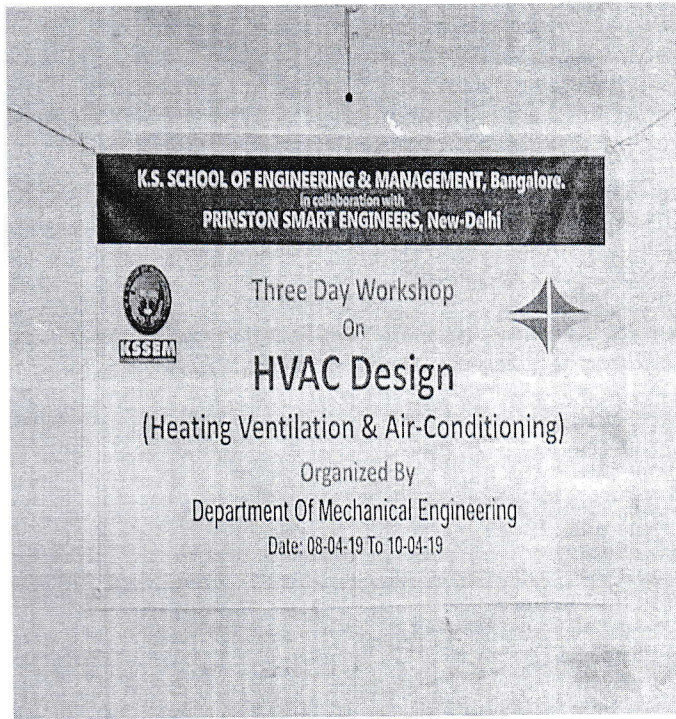
In the workshop we also had a hands-on experience on duct sizing software.

  
9/11/19

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