Report on

Workshop Sponsored by TEQIP III on "Syllabus and Curriculum Review of Civil Engineering" held at MIT Muzaffarpur

18 Aug, 2018

Introduction

The globalization of the world economy and higher education are driving profound changes in engineering education system. There is a continuing need to dynamically adapt to these changes. Future engineering graduate not only need to be knowledgeable in his/her discipline, but also needs a new set of soft, professional skills and competencies. In recent years, there have been essential changes in engineering education in terms of what to teach (content) and how to teach (knowledge delivery) and how to assess (students learning). AICTE has already taken initiation to come out with model curriculum for engineering programs and through digital initiatives, innovative methodologies are made available to colleges and teachers.

'Curriculum' is a Latin term used for overall course. It indicates the overall content taught in an educational system or a course. While, 'syllabus' is a Greek word used for a particular subject of a course. It is the document that contains all the portions of the concept covered in a subject. A syllabus functions as a contract between teacher and students. Curriculum is heart of any learning institution. Curriculum design is a dynamic process due to the changes that occur in our society. Review of the curriculum and syllabus is important for benefits of the stakeholders of program. 'Aryabhatta Knowledge University' is reviewing the curriculum and syllabus of different undergraduate course of engineering as per model and suggestions given by AICTE. MIT Muzaffarpur is reviewing the curriculum and syllabus for Civil Engineering undergraduate program.

Examination or assessments of student is a very important in deciding the quality of education. Examination must not only assess student's achievements (and grade) but also measure whether the desired learning outcomes have been achieved. It is widely acknowledged that "assessment drives learning", what and how students learn depend to a major extent on how they think they will be assessed. The question papers that require simple memory recall will not ensure deep, meaningful learning. The assessment must be those high expectations to ensure that the learner is

motivated to attain them. This workshop is a part of the reviewing process of curriculum, syllabus and assessment system.

Overview of the short term course

Workshop was inaugurated on 18 August 2018 by **Dr. A. K. choudhary**, Professor, NIT Jamshedpur, **Dr. Virendra Kumar**, Associate Professor, NIT Jamshedpur, **Dr. Sunita Kumari**, Associate Professor, NIT Patna, **Dr. S.K. Suman**, Associate Professor, NIT Patna, **Dr. A.K. Singh,** Principal, LNJPIT Chhapra, **Prof (Dr.) J.N. Jha**, MIT Muzaffarpur and **Prof. C.B. Rai,** HOD, Civil Engineering Department, MIT Muzaffarpur in presence of Dr. Subha sinha, Mr. Atul Kumar Rahul, Ms. Sushila Sharma, Mr. Rishi Srivastava, Mr. Niraj Kumar, Mr. Kumar Utkarsh, Mr. Pallav Kumar, Mrs. Shivangi Mishra and faculties from the other departments and engineering colleges of Bihar. Course co-coordinator of the workshop were **Dr. Akash Priyadarshee, Mr. vijay kumar** and **Mr. Ashish Kumar.** In the inauguration session the importance of the changes in the curriculum and syllabus is highlighted by the experts. The details of the Participants are presented in Annexure I.

Details of Session

One day workshop was conducted. The whole workshop was divided into two sessions. Details of the session are presented in the Annexure II. In the first session i.e. the morning session review of the syllabus and curriculum was targeted, while in the second session i.e. afternoon session the assessment review was done. In the starting of the first session the brief about session was given by Prof. Ashish Kumar. Prof. Ashish Kumar had given a power point presentation on Introduction of model curriculum and syllabus prescribed by the AICTE. He had also explained the process of reviewing during the session. First review of the curriculum was done and then review of the syllabus was done. For the subjects other than ‘Civil Engineering’, faculties from the other departments were also invited (Annexure I). After an interactive discussion participants have filled the suggestion form and then forms were collected.

In the second session at starting of the session power point presentation on the ‘Examination Reforms’ was given by Dr. Akash Priyadarshee. After presentation discussion for the review of the present assessment method was done. Then suggestions related to the examination reforms were collected. During both of the session experts have also given their view. Details of the experts of the sessions are presented in Annexure III.

Suggestions and Feedback of the participants

For the suggestions after reviewing process of curriculum, syllabus and assessment method three forms were filled by the participant. The form is presented in Annexure IV. Form in Annexure IVA is for the curriculum. In this the suggestions related to over all curriculum for undergraduate program was taken. In Annexure IV B, form presented was for the suggestions related to the syllabus of the individual subject. For examination related suggestions Form in Annexure IV C was used.

Summary of the suggestions related to the curriculum/syllabus/Assessment

During the workshop following suggestions related to the curriculum for different semesters were given by the participants and the experts.

3rd semester

Course Code (Name of the course)	Suggestions
ESC202 (Basic Electronics)	• This course should have 2 lectures. • The hour distribution should be 2-0-2.
BSC 109 (Biology for engineers)	• This course is not required as separate course. Important topic of this course should be included in the course of 'life science' (BSC225)
ESC 203 (Computer-aided civil engineering drawing)	• The course should be taught in higher semester so that the design of structure can be included with computer software. • Lecture is not required for this course.
ESC 205 (Engineering Mechanics)	• The most of the content of this course is covered in the semester course of Physics, BSC 101 (Mechanics & mechanics of solids). • In place of this course Structure analysis I could be included. • In Engineering mechanics there should be practical.
BSC 225 (Engineering science courses)	• Photosynthesis should be included in module 1(a). Module 3(a) molecular genetics should be included in BSC 109 module 3. In place of this toxicological chemistry should be included.
BSC 201 (Mathematics III	• Probability and statistics should be included as compulsory not as optional.
HSMC 201 (Humanities I Effective technical	• Presentation on different topics as practical should be included.

course)	
HSMC 251 (Introduction to civil engineering)	• Industrial visit should be included in this course.

4th semester

Course Code (Name of the course)	**Suggestions**
ESC 209 (Mechanical engineering)	• This course seems not appropriate for civil engineering it could be placed in 3rd semester or 1st year. • Lecture hour could be decreased for this course to 2 hours and tutorial could be removed. • Some topics like Boilers & its types, IC engines, air-conditions, heat treatment of steel these topics are related to civil engineering should be included in this topic.
PCC-CE204 (Introduction to fluid mechanics)	• The content of the syllabus couldn't be completed in 2 lectures per weeks it should be 3 lectures per weeks. • The hour distribution should be 3-0-2. • Some portion from the CE302 should be included i.e. module 1,2 and 9.
PCC- CE 205 (Introduction to Solid Mechanics)	• Again contents of the syllabus are already covered in first year so in place of this course structure analysis II should be included.
PCC-CE202 (Engineering Geology)	• The syllabus of the engineering geology couldn't be completed in given lecture. • The hour distribution should be 2-0-2 or 3-0-2.
PCC-CE 206 (Surveying and Geomatics)	• The course couldn't be completed in the suggested hours of lectures. • 3 hour of lecture should be provided to complete the syllabus. Tutorial could be removed. • Syllabus should be decreased by removing GIS, GPS etc. and these topics should be covered in the elective course.

5th semester

Course Code (Name of the course)	**Suggestions**
PCC-CE301 (Mechanics of materials)	• Mechanics of materials already covered in previous semester
PCC-CE302 (Hydraulic Engineering)	• Hourly distribution for this course should be 3-0-2. • These courses have 10 modules, in which module no. 4 is already covered in the course CE204 (4^{th} semester). • Module no. 1, 2 and 9 could be transferred to CE204 then hourly distribution 2-0-2 will be justified. This shift also justify the list of the experiments.
PCC-CE303(Structural Engineering)	• This course should be separated in two course steel and concrete structure. • Its hourly distribution should be 3-1-2 • Design of footing and retaining wall should be included. • Structure analysis should be taught separately.
PCC-CE304 (Geotechnical Engineering)	• Hourly distribution should be 2-1-2 in place of 2-0-2.
MC I (constitution of India)	• This course should have some credit 0.5 or 1.
PCC CE305 (Hydrology and water resoulrces)	• Hourly distribution should be 3-0-0 or 2-1-0 in place of 2-2-0 • Experiments related to rainfall, evaporation, infiltration, filed experiments like current meter etc. should be included.
PCC CE307 (Transportation Engineering)	• Some portion of the railways, airport should be added in this course. • Its hourly distribution should be 3-0-2 • List of the experiments needs to be included.
PCC-CE306 (Environmental Engineering)	• This course should have hourly distribution of 3-0-2.
HSMC 255 (Professional practice, law and ethics	• Course credit should be 1-0-0 instead of 2-0-0

6th semester

Course Code (Name of the course)	Suggestions
PCC-CE309(Engineering economics, estimation and costing)	• These courses have high hours, which is not required. Tutorial and 2 hours of the practical could be removed. Hourly distribution of 2-0-2 is appropriate for this course.

7th and 8th semester

Earthquake engineering should be mandatory subject not elective.

Other than above mentioned comment following specific comments were mentioned:

- Number of subjects in the each semester is very high as compared to the other branches.
- For assessment following suggestions were given:
    - The distribution of the assessment should be university exam 50%, internal exam 20%, Assignment 10%, class test/project 10%, Attendance 10%.
    - The distribution of the assessment should be university exam 70% and for remain 30% faculty should have freedom to design assessment tool according to requirement of the course.
    - University exam 60%, internal exam 20%, assignment/attendance 20%.
    -

Suggestion From Industrial Expert communicated through email

Industrial Expert with designation	Suggestions
Mr Nihar Kumar Biswas, Chief Engineer, PWD, Government Of West Bengal	It's a vast curriculum. Personally I belief syllabus need to simplified, especially it should be need based subjects only in the respective branch. Instead of covering all the subjects, it can go to depth of the subjects.
Mr Ujjawal Kumar Mukherjee, Engineer-in-Chief, Housing Deptt, Government Of West Bengal	The subjects and its syllabuses are chosen and formulated by AICTE based on the advice of the experts from academic as well as from industry. Their acumen and knowledge are far more superior to these qualities possessed by a common person like me. However, after going through the subjects/syllabuses and then comparing with the same what we have taught (4 yr course) in the early 80s, it appears to me that a vast change happened

Annexure I List of the participants in short term course

S.No.	Name of participants	Contact No.	Email Address
1	Rishi Srivastava	**9580906827**	**rishi@mitmuzaffarpur.org**
2	Suchitkumar Patel	**6200884764**	**skpuit@gmail.com**
3	Gaurav Kumar Tripathi	**8005117600**	**trigaurav96@gmail.com**
4	Kunal Kumar	**8084575671**	**kunal1989kumar@gmail.com**
5	Mithlesh Kumar	**7417529588**	**mith.cusat@gmail.com**
6	S. S. Choudhary	**9471223162**	**llyand_chodlor@rediffmail.com**
7	Dr. Sunil Kumar	**9430014179**	**sunil.mit@yahoo.in**
8	Kumar Utkarsh	**7065860474**	**utkarsh@mitmuzaffarpur.org**
9	Sushila Sharma	**8471034785**	**sushilasharma25@gmail.com**
10	C B Rai	**9431063215**	**cbrai.mit@gmail.com**
11	Niraj Kumar	**9431063215**	**niraj@mitmuzaffarpur.org**
12	Pallav Kumar	**7204896555**	**pallav318@gmail.com**
13	Vinod Kumar	**8014640511**	**vinodni.kumar@gmail.com**
14	Ashish Kumar (IT)	**9123069304**	**ashish@mitmuzaffarpur.org**
15	Dr. Subha Sinha	**9646948477**	**starsubha@gmail.com**
16	Rishabh Raj	**9999889660**	**rishabh.raj90@gmail.com**
17	Piyush K Mishra	**9407757111**	**007pituah007@gmail.com**
18	MD. Asfaque Ansari	**8254990235**	**asfaque06@gmail.com**
19	Abhishek Kumar	**7004117961**	**abhishekkmr92@gmail.com**
20	Shashank Saurabh	**8987769685**	**sshashanksit@gmail.com**
21	Dr. U. N. Singh	**9431618217**	**unsinghmit@gmail.com**
22	NItyanandJha	**9711923306**	**nityan.jha@gmail.com**
23	Atul Kumar Rahul	**7827602230**	**atulcivil.iitbhu@gmail.com**
24	Dr. Akash Priyadarshee	**9914353124**	**i.akashpriyadarshee@gmail.com**
25	Dr. Vikash Kumar	**9931839003**	**vikashkumar@mitmuzaffarpur.org**
26	Dr. G. Thakur	**9955517335**	**gthakurmit@gmail.com**
27	Ajay Kumar	**8102480146**	**ajay28.kumar@gmail.com**
28	Irfan Haider	**9897381104**	**irfan@mitmuzaffarpur.org**
29	Faiz Ahmed	**7739679034**	**faizahmad83@mitmuzaffarpur.org**
30	Ravi Kumar	**8210314107**	**ravikumar@mitmuzaffarpur.org**
31	Dr. Surendra Kumar	**9934639130**	**usask2033@gmail.com**
32	Dr. Ashutosh Kumar	**9334205483**	**ashu1954mit@gmail.com**
33	Vijay Kumar	**8630843934**	**vijayfce@mitmuzaffarpur.org**
34	Shahzad Ahsan	**7544897422**	**electricalshahzad@gmail.com**
35	Ashish Kumar (CE)	**9475474551**	**ashishce@gmail.com**

Annexure II Details of the session

Hrs	**9:30 AM to 10:00AM**	**10:00 AM to 10:45AM**	**10:45 Am to 11:00 AM**	**11:00 AM to 01:00 PM**	**01:00 PM to 02:00 PM**	**02:00 PM to 04:00 PM**	**04:00 PM to 04:30 PM**
Saturday 18th August 2018	Registration	Inauguration		Introduction to model curriculum of AICTE and discussions. **Mr Ashish Kumar**	Lunch Break	Examination Reform Dr Akash Priyadarshee	Valedictory

Annexure III Details of the Experts

S. No.	Name of the Experts	Designation	Name of the Institute
1	Prof J. N. Jha	Principal	MIT Muzaffarpur
2	Prof. Anil Kumar Choudhary	Professor	NIT Jamsedpur
3	Dr. Virendra Kumar	Associate Professor	NIT Jamsedpur
4	Dr. Sunita Kumari	Associate Professor	NIT Patna
6	Dr S. K. Suman	Assistant Professor	NIT Patna
7	Dr. Akash Priyadarshee	Assistant Professor	MIT Muzaffarpur
9	Ashish Kumar	Assistant Professor	MIT Muzaffarpur

Annexure- IV-A

Workshop on

Syllabus and curriculum review of Civil Engineering (AKU Patna)

Suggestion for modification in Curriculum

बिहार सरकार

विज्ञान एवं प्रावैधिकी विभाग

NAME:

DESIGNATION:

INSTITUTE NAME:

HIGHEST QUALIFICATION:

E-MAIL ADDRESS:

CONTACT NUMBER:

SPECIALIZATION:

3rd semester

- Mention the subjects written in the model curriculum which are not appropriate for civil engineering course.

- Mention the subjects which are not appropriate for 3rd semester or sufficient pre-requisite are not covered. Also indicate appropriate semester.

- Subjects having distribution of credit/hour (L-T-P) is not appropriate and suggests the appropriate distribution of L-T-P by considering the total credit.

- Subjects which should be included in the 3rd semester but not in the model curriculum.

Signature

4th semester

- Mention the subjects written in the model curriculum which are not appropriate for civil engineering course.

- Mention the subjects which are not appropriate for 4th semester or sufficient pre-requisite are not covered. Also indicate appropriate semester.

- Subjects having distribution of credit/hour (L-T-P) is not appropriate and suggests the appropriate distribution of L-T-P by considering the total credit.

- Subjects which should be included in the 4th semester but not in the model curriculum.

5th semester

- Mention the subjects written in the model curriculum which are not appropriate for civil engineering course.

- Mention the subjects which are not appropriate for 5th semester or sufficient pre-requisite are not covered. Also indicate appropriate semester.

- Subjects having distribution of credit/hour (L-T-P) is not appropriate and suggests the appropriate distribution of L-T-P by considering the total credit.

- Subjects which should be included in the 5th semester but not in the model curriculum.

Signature

6th semester

- Mention the subjects written in the model curriculum which are not appropriate for civil engineering course.

- Mention the subjects which are not appropriate for 6th semester or sufficient pre-requisite are not covered. Also indicate appropriate semester.

- Subjects having distribution of credit/hour (L-T-P) is not appropriate and suggests the appropriate distribution of L-T-P by considering the total credit.

- Subjects which should be included in the 6th semester but not in the model curriculum.

7th semester

- Mention the subjects written in the model curriculum which are not appropriate for civil engineering course.

- Mention the subjects which are not appropriate for 7th semester or sufficient pre-requisite are not covered. Also indicate appropriate semester.

- Subjects having distribution of credit/hour (L-T-P) is not appropriate and suggests the appropriate distribution of L-T-P by considering the total credit.

- Subjects which should be included in the 7th semester but not in the model curriculum.

Signature

8th semester

- Mention the subjects written in the model curriculum which are not appropriate for civil engineering course.

- Mention the subjects which are not appropriate for 8th semester or sufficient pre-requisite are not covered. Also indicate appropriate semester.

- Subjects having distribution of credit/hour (L-T-P) is not appropriate and suggests the appropriate distribution of L-T-P by considering the total credit.

- Subjects which should be included in the 8th semester but not in the model curriculum.

Specific suggestion other than mentioned above

Signature

Annexure-IVB

Workshop on

Syllabus and curriculum review of Civil Engineering (AKU Patna)

Suggestion for modification in Syllabus

विज्ञान एवं प्रावैधिकी विभाग

NAME:

DESIGNATION:

INSTITUTE NAME:

HIGHEST QUALIFICATION:

E-MAIL ADDRESS:

CONTACT NUMBER:

SPECIALIZATION:

Information required below is based upon the model syllabus given by the AICTE

Semester	
Course code and name	
Is syllabus mentioned in model is sufficient? (Y/N)	
Hours mentioned to cover the syllabus is sufficient. (Y/N)	
If the duration is not sufficient which module could be omitted? Mention the module number.	
Number of experiments mentioned is sufficient (Y/N)	
Duration required to cover all the experiment is sufficient (Y/N)	
If duration is not sufficient which experiment could be removed? Mention the number of experiment.	

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Write the content which required in the subject but not mentioned in the model syllabus.

Write the name of experiment which is required in the subject but not mentioned in the model syllabus.

Specific comment if any which is not mentioned above.

Signature

Annexure-IV C

Workshop on

Syllabus and curriculum review of Civil Engineering (AKU Patna)

Suggestion for Assessment Reforms

NAME:

DESIGNATION:

INSTITUTE NAME:

HIGHEST QUALIFICATION:

E-MAIL ADDRESS:

CONTACT NUMBER:

SPECIALIZATION:

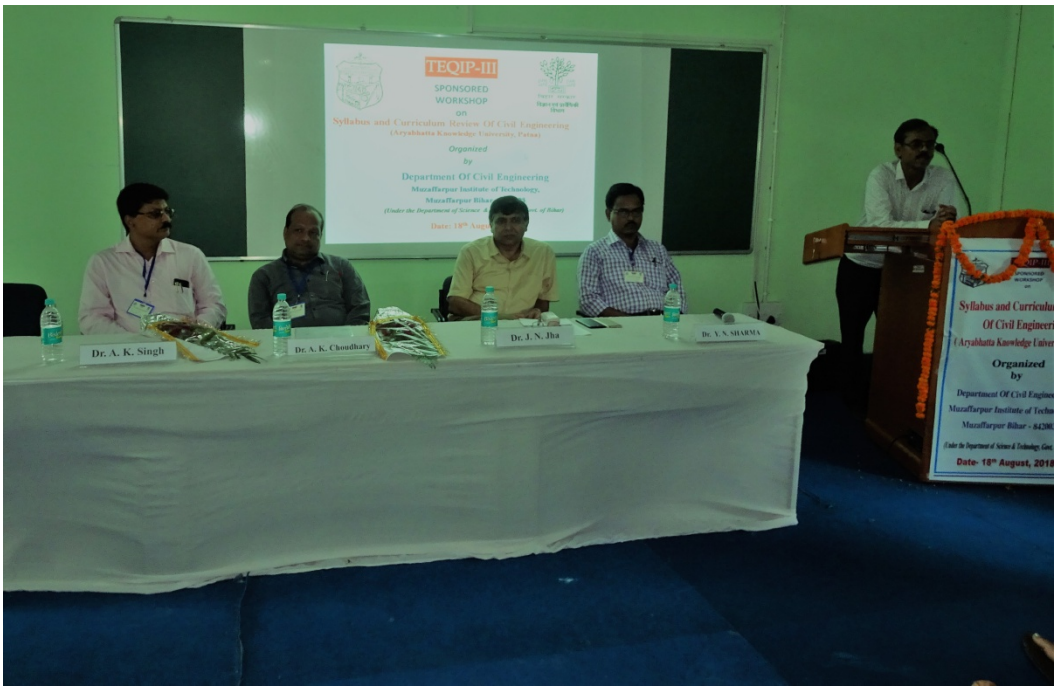
Present Assessment of AKU have University exam (70%), Internal Exam (20%), Assignment/class test/attendance (10%)

Name of subject/course code	**Semester**	**Suggested Assessment**

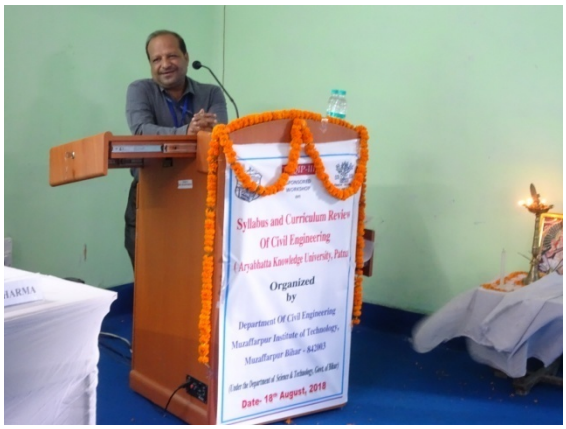
Specific comment if any which is not mentioned above.

Date **Signature**

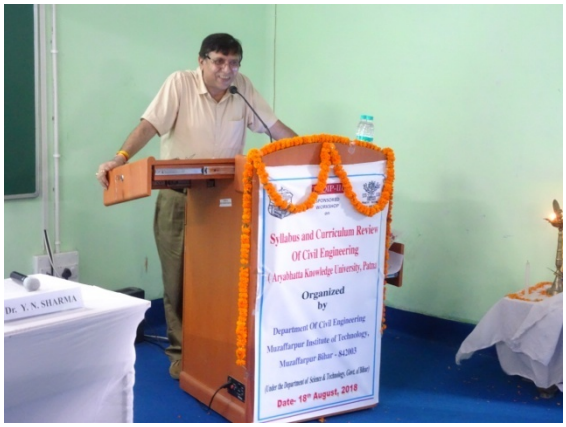
Photographs



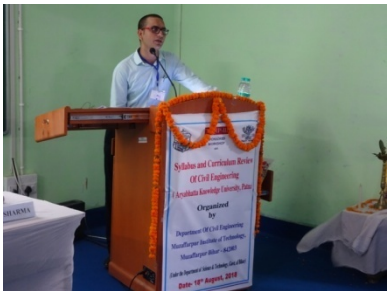
Dignitaries during Inauguration



Address by Dr A. K. Chaudhary, Professor
Department Of Civil Engg, NIT Jamsedpur.

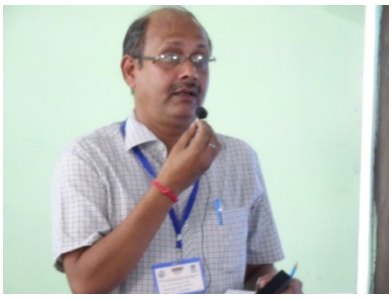


Address by Dr J.N. Jha, Principal MIT Muzaffarpur.

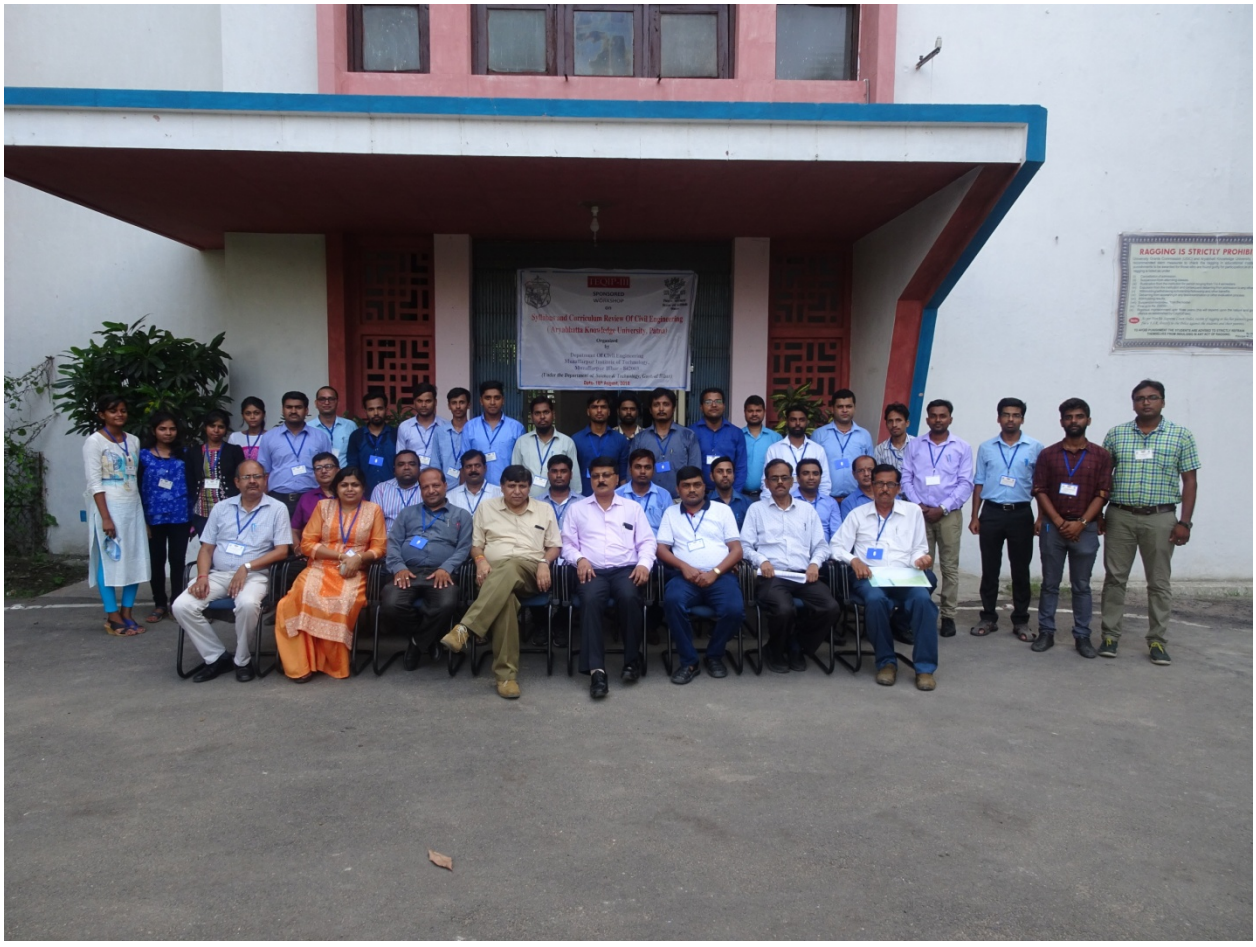


Presentation by Prof Ashish Kumar, Co-ordinator on “Introduction Of Model Curriculum of AICTE and discussions”

Presentation by Dr Akash Priyadarshee, Co-ordinator on “Examination Reforms” in second Session of Workshop.



Views by Dr Virendra Kumar on comments of participant.



Group photograph of workshop