



AMITY UNIVERSITY

MADHYA PRADESH

(Established by Ritnand Balved Education Foundation)

Date: 06/03/2019

BOARD OF STUDIES (Computer Science & Engineering, IT and BCA)

MINUTES OF THE MEETING

(5 Pages Only)

1. Board of Studies (BoS) meeting has been held by the Department of Computer Science & Engineering, Amity School of Engineering & Technology, Amity University Madhya Pradesh on March 06, 2019 at AUMP, Gwalior, under the Chairmanship of Maj Gen (Dr) SC Jain, VSM** (Retd), Director (ASET). The following members attended the meeting: -

(a) **Chairman:** Maj Gen (Dr) SC Jain, VSM** (Retd), Director (ASET)

(b) **Members**

- i) Dr. Sanjay Kumar Gupta, Professor & Head, Dept of Computer Science and Applications, Jiwaji University, Gwalior- External Member
- ii) Dr. Venkatadri M., Professor & Head, Dept of Computer Science and Engineering, Amity University Madhya Pradesh, Gwalior, Member
- iii) Dr Arvind Kumar Upadhyay, Professor, Dept of Computer Science and Engineering, Amity University Madhya Pradesh, Gwalior, Member.
- iv) Mr. Ashok Kumar Shrivastava, Asst. Professor, Dept of Computer Science and Engineering, Amity University Madhya Pradesh, Gwalior, Member

2. The agenda of the meeting includes the following points:

(a) **B.Tech CSE 2018-22 Batch:**

In continuation with the 1st year AICTE model curriculum approved for B.Tech CSE in the academic year 2018-19, 2nd year B.Tech CSE scheme and syllabus has been put forward for approval for 2018-22 batch.

(b) **B.Tech CSE 2019-23 Batch:**

Introducing new curriculum with uniform course coding for B.Tech CSE as per AICTE Model curriculum from the academic year 2019-20, 2020-21 (1st & 2nd year) for 2019-23 batch.

(c) **B.Tech IT 2019-23 Batch:**

Introducing new curriculum with uniform course coding for B.Tech IT as per AICTE Model curriculum from the academic year 2019-20 for 2019-23 batch.

(d) **BCA 2019-22 Batch:**

Introducing new curriculum with uniform course coding for BCA Program as per the UGC guidelines from the academic year 2019-20, 2020-21 (1st year) for 2019-22 batch.

- (e) Discussion on IT trends and technological advancement to improve the skill sets in graduates in Computer Science field and consideration of their inclusion in syllabus.
- (f) Any other point with due permission of the Chairperson.

3. Discussions/Comments:

- a. (i) **Discussion (B.Tech 2018-22 Batch)** : The scheme and syllabus of Second year B.Tech CSE presented before the members of the Board of Studies. The syllabus of all the courses has been reviewed. Further the courses offered by the Dept of CSE to 2nd year (2018-22 batch) ECE, CE and ME also reviewed.
- (ii) **Comments:** The syllabus recommended by AICTE model curriculum has been adopted for Second year B.Tech CSE and the courses offered by Dept of CSE to other departments. Uniform course coding has been adopted for the common courses and value added courses in all B.Tech programs at ASET in Second year 2019-20 for 2018-22 batch.
- b. (i) **Discussion (B.Tech 2019-23 Batch)** : The existing syllabi of the courses offered by Department of CSE in 1st and 2nd semester B.Tech CSE, ECE, ME and CE presented before the members of the Board of Studies. The syllabus of all the courses has been reviewed.
- (ii) **Comments:** The existing syllabus is well aligned with the syllabus recommended by AICTE model curriculum and few changes were recommended in some subjects. Uniform course coding has been adopted for common courses and value-added courses.
- c. (i) **Discussion:** The existing scheme and syllabus of B.Tech IT, Bachelor of Computer Applications (BCA) programs offered by Dept of CSE presented before members of Board of Studies. The scheme and syllabus have been reviewed.
- (ii) **Comments:** The existing syllabus B.Tech IT needs to change as per AICTE model curriculum and BCA Program as per the UGC guidelines.
- d. (i) **Discussion:** The syllabus of M. Tech, CBCS and Pre-PhD course work courses was presented to BOS members and reviewed.
- (ii) **Comments:** The Syllabus of M. Tech., CBCS and Pre-PhD course work subjects is well aligned and needs no change. Uniform course coding has been adopted for Value added subjects of M. Tech. and CBCS subjects.

4. Recommendations:

B. Tech Program:

- i. **CSE 2018-22 Batch:** As per the guidelines of AICTE 2018, Dept. of Computer Science & Engineering in ASET, AUMP, Gwalior has adapted the AICTE model curriculum from the academic year 2018-19 onwards for 2018-22 batch B.Tech CSE. The BOS meeting held on 16/05/2018 had approved the first year CSE AICTE model curriculum and syllabus. Further in continuation, 2018-22 batch's second year B.Tech CSE scheme and syllabus with uniform course coding put forward for the BOS member's kind approval. Uniform course coding adopted in all the courses except the Course code for Mathematics-III ie BTC-301 (remains same for 2nd year B,Tech CSE program for the academic year 2019-20) for batch-2018-22
(Refer Annexure-I)
- ii. **CSE 2019-23 Batch:** Uniform course coding has been recommended to all the courses B.Tech CSE programs from the academic year 2019-20, 2020-21 (1st & 2nd year) for 2019-23 batch. **The new curriculum as per the AICTE model curriculum with uniform course coding is put forward to the** kind approval of BoS members.
(Refer Annexure -II)
- iii. **IT 2019-23 Batch:** Uniform course coding has been recommended to all the courses B.Tech IT program from the academic year 2019-20 for 2019-23- B.Tech IT batch . The new curriculum as per the AICTE model curriculum B.Tech IT scheme and syllabus is put forward for the kind approval of BoS members.
(Refer Annexure-III)
- iv. **Uniform course coding has been adopted for value added courses (All semesters), Basic science courses** (Physics, Chemistry, Mathematics) and courses offered to other Institutes by the department.

BCA Program:

- i. **Uniform course coding has been recommended to all the courses BCA program** from the academic year 2019-20 (1st year) for 2019-22 batch. The new curriculum as per the UGC guidelines, scheme and syllabus is put forward for the kind approval of BoS members.

(Refer Annexure-IV)

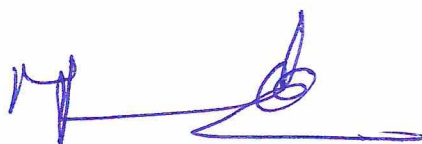
M. Tech Program:

There is no change in the scheme and syllabus of the course.

Pre Ph.D. Course:

Pre PhD course work subjects to be decided in accordance to the **Appendix-G** of URC dated February, 08, 2019.

(All codes are subject to change as per further alignment and higher directions)



CBCS:

- i. There is no change in the scheme and syllabus of the course.
- ii. Uniform course coding has been adopted for all courses offered by the department.
- iii. MOOC courses are included in three courses as per the UGC guidelines (Cloud Computing, Data Analytics and Network Security) in Semester-I.

S.No	Name of the Minor Track	MOOC Course by UGC	Course Code	Semester	Credits
1	Cloud Computing	Cloud Computing	noc19-cs65	I	3

All the aforesaid points have been approved by all the board members present in the meeting.

5. Summary of changes are given below: -

- a. Annexure I, II, III and IV for the courses of CSE Dept.
- b. SUMMARY OF EXISTING AND PROPOSED COURSES/CODES OFFERED BY CSE WITHIN ASET (ECE, Civil, and ME)

Present Course Code					Proposed Changes/ Modifications		
Sr.No	Programme	Course Title	Old Course Code	No. of Credits	Title/ Syllabus	Uniform Course	No. of Credits
1	B.Tech ECE I Sem	Programming for Problem Solving	BTE 103	3	No Changes in title and Syllabus	BTC 101	3
2	B.Tech CSE I Sem	Programming for Problem Solving	BTC 103	3			3
3	B.Tech Civil II Sem	Programming for Problem Solving	BTCE 203	3			3
4	B.Tech ME II Sem	Programming for Problem Solving	BTM 203	3			3
5	B.Tech ECE I Sem	Programming for Problem Solving	BTE 121	2		BTC 121	2
6	B.Tech CSE I Sem	Programming for Problem Solving	BTC 121	2			2
7	B.Tech Civil II Sem	Programming for Problem Solving	BTCE 221	2			2
8	B.Tech ME II Sem	Programming for Problem Solving	BTM 221	2			2
9	B.Tech ME IV Sem	Principle of Computer Graphics	BTM 406	2		CSE 401	2
10	B.Tech ME IV Sem	Principle of Computer Graphics Lab	BTM 423	1		CSE 421	1
11	B.Tech ECE III Sem	Java Programming	BTE-305	3		BTC 404	3
12	B.Tech ECE III Sem	Java Programming Lab	BTE-322	1		BTC 424	1+1

The course codes of BTE 103, BTC 103, BTCE 203 and BTM 203 changed to BTC 101.

The course codes of BTE 121, BTC 121, BTCE 221 and BTM 221 changed to BTC 121.

MINUTES OF BOS DEPT OF CSE

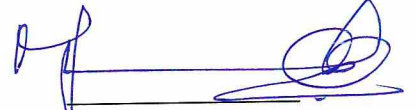
Signature of Members:



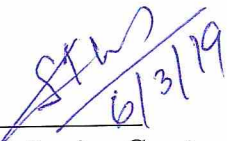
Mr. Ashok Kumar Shrivastava



Prof.(Dr.) A K Upadhyay



Prof.(Dr.) Venkatadri.M



Prof. (Dr.) Sanjay Gupta
External Member



Maj Gen (Dr) S C Jain
Chairman- BOS



Prof.(Dr.) M.P. Kaushik
Hon'ble Pro Vice Chancellor
AUMP, Gwalior

APPROVED BY



Hon'ble Vice Chancellor
AUMP, Gwalior



AMITY UNIVERSITY

MADHYA PRADESH

(Established by Ritnand Balved Education Foundation)

Date: 06/03/2019

NOTE- SHEET

1. The Department of Computer Science & Engineering, ASET, AUMP, Board of Studies Meeting was held on **06 March 2019**.
2. The minutes of the meeting submitted for your kind perusal & approval please.

Prof. (Dr) Venkatadri M.
HoD (CSE)

Director-ASET

Dean (Academics) Submit a copy (soft & hard) of BOS minutes & syllabus 11/3/2019

Hon'ble Pro Vice Chancellor 12/03/19

Hon'ble Vice Chancellor 12/3/19



AMITY UNIVERSITY MADHYA PRADESH

(Established by Ritnand Balved Education Foundation)

Date: 11/03/2019

NOTE- SHEET

1. The Department of Civil Engineering, ASET, AUMP, Board of Studies Meeting was held on **11 Mar 2019**.
2. The minutes of the meeting submitted for your kind perusal & approval please.

Mr. Mohan Kantharia
HoD(Civil)

Director-ASET

Dean (Academics)

Submit a copy (soft & hard) of BOS minutes & Syllabus

Hon'ble Pro Vice Chancellor

12/3/19

Hon'ble Vice Chancellor

12/3/19



AMITY UNIVERSITY

MADHYA PRADESH

(Established by Ritmand Balved Education Foundation)

Date: 05/02/2019

BOARD OF STUDIES (Civil Engineering)
MINUTES OF THE MEETING
(04 Pages Only)

1. Board of studies (BoS) meeting has been held by the Department of Civil Engineering, Amity School of Engineering & Technology, Amity University Madhya Pradesh was held on 5th Feb 2019 at AUMP, under the Chairmanship of Maj Gen (Dr) S C Jain VSM **(Retd), Director (ASET). The following members attended the meeting: -

(a) **Chairman**: Maj Gen (Dr) S C Jain VSM **(Retd), Director (ASET)

(b) **Member**

- i) Dr. Manoj Kumar Trivedi, Professor & Head, Department of Civil Engineering MITS Gwalior, External Member
- ii) Mr. Mohan Kantharia Asst. Prof & Head Civil Engineering, Amity University Madhya Pradesh, Gwalior, Member.
- iii) Dr. Ripunjoy Gogoi, Asst. Professor Civil Engineering, Amity University Madhya Pradesh, Gwalior, Member.

2. The agenda of the meeting included the following points:

(a) **B.Tech CE 2018-22 Batch**: In continuation with the 1st year AICTE model curriculum approved for B.Tech CE in the academic year 2018-19 , 2nd year B.Tech CE scheme and syllabus has been put forward for approval for 2018-22 batch.

(b) **B.Tech CE 2019-23 Batch**: Introducing new curriculum with uniform course coding for B.Tech CE as per AICTE Model curriculum from the academic year 2019-20,(First year), 2020-21(Second year) for 2019-23 batch.

(c) Discussion on trends and technologies in Civil Engineering and consideration of their inclusion in syllabus.

(d) Any other point with due permission of the Chairperson.

3. Discussions/Comments:

a. (i) **Discussion:** The existing syllabus of the subjects offered by Civil Engineering to I and II semester B.Tech. was presented before the members of the Board of Studies. The syllabus of all the courses has been reviewed.

(ii) **Comments:** The existing syllabus is well aligned with the syllabus recommended by AICTE and few changes were recommended in some subjects. Uniform course coding has been adopted for common courses and value-added courses.

b. (i) **Discussion:** The syllabus of Second year CE as per AICTE recommendation was presented to BOS members and reviewed.

(ii) **Comments:** The syllabus recommended by AICTE has been adopted for Second year CE. Uniform course coding has been adopted for the common subjects and value added subjects of Second year.

c. (i) **Discussion:** The syllabus of M. Tech, CBCS and Pre-PhD course work subjects was presented to BOS members and reviewed.

(ii) **Comments:** The Syllabus of M. Tech., CBCS and Pre-PhD course work subjects is well aligned and needs no change. Uniform course coding has been adopted for Value added subjects of M. Tech. and CBCS subjects.

4. Recommendations:

B. Tech Program:

- i. **CE 2018-22 Batch:** As per the guidelines of AICTE 2018, Dept. of Civil Engineering in ASET, AUMP, Gwalior has adapted the AICTE model curriculum from the academic year 2018-19 onwards. The BOS meeting had approved the first year CE AICTE model curriculum and syllabus. Further in continuation, 2018-22 batch's second year B.Tech CE **scheme and syllabus** put forward for the BOS member's kind approval. Uniform course coding adopted in all the courses except the course code for Mathematics-III i.e. BTCE-301 (remains same for 2nd year B, Tech CE program for the academic year 2019-20) for batch-2018-22. **(Ref. Annexure-1)**
- ii. Uniform course coding has been recommended to all the courses B.Tech CE programs from the academic year 2019-20(first year), 2020-21 (Second year) for 2019-23 batch. The new

curriculum as per the AICTE model curriculum with uniform course coding is put forward to the kind approval of BoS members.

(Ref. Annexure -2)

- iii. Uniform course coding has been adopted for value added courses for 2018-22 batch
- iv. Uniform course coding has been adopted for value added courses for (All semesters), Basic science courses (Physics, Chemistry, Maths).
- v. Industrial visits have been added in course BTCE 305. Civil Engineering projects have been added in BTCE-422. Both courses are compulsory courses.

M. Tech Program:

- i. There is no change in the scheme and syllabus of the course.
- ii. Uniform course coding has been adopted for value added courses (All semesters).

Pre Ph.D.-Course:

Pre PhD course work subjects to be decided in accordance to the Appendix-G of URC dated February, 08, 2019.

CBCS:

- i. There is no change in the scheme and syllabus of the course.
- ii. Uniform course coding has been adopted for all courses offered by the department.
- iii. MOOC course is included in one course of Construction Engineering as per the UGC guidelines in semester-I.

S. N.	Name of minor track	MOOC course by UGC	Course code	Semester	Credits
1	Construction Engineering	Concrete Technology	noc19-ce20	I	3

All the aforesaid points have been approved by all the board members present in the meeting.

5.Summary of changes are given below: -

Codes:

- (a) All codes are subject to change as per further alignment and higher directions.
- (b) Codes and syllabus for the subjects offered outside ASET are being decided in consultation with the respective HOI's.

BOARD OF STUDIES (B.Tech, Civil Engineering , Second Year)
MINUTES OF THE MEETING

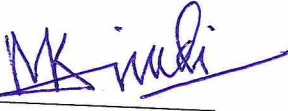
Signature of Members:



Dr. Ripunjoy Gogoi



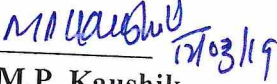
Mr. Mohan Kantharia



Prof. (Dr.) Manoj Kumar Trivedi
External Member

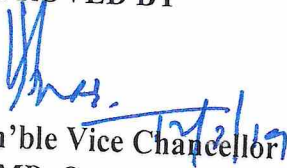


Maj Gen (Dr) S C Jain
Chairman- BOS



Prof. (Dr.) M.P. Kaushik
Hon'ble Pro Vice Chancellor
AUMP, Gwalior

APPROVED BY



Hon'ble Vice Chancellor
AUMP, Gwalior

**Bachelor of Technology
(Civil Engineering)**

CE

CURRICULUM

**1st and 2nd YEAR
(2018-22 Batch)**

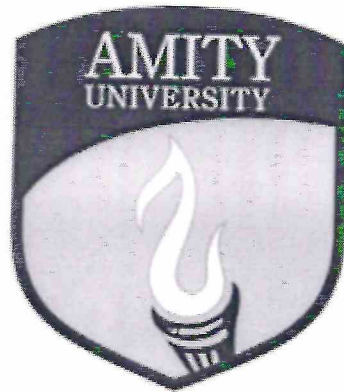
(AICTE)

B.Tech CE 2018-22 (As per AICTE)

**Bachelor of Technology
(Civil Engineering)**

Programme Code: BTCE

Duration – 4 Years Full Time



**Programme Structure
&
Curriculum & Scheme of Examination**

**2018-22
(As per AICTE)**

**AMITY UNIVERSITY
MADHYA PRADESH**

PREAMBLE

Amity University aims to achieve academic excellence by providing multi-faceted education to students and encourage them to reach the pinnacle of success. The University has designed a system that would provide rigorous academic programme with necessary skills to enable them to excel in their careers.

This booklet contains the Programme Structure, the Detailed Curriculum and the Scheme of Examination. The Programme Structure includes the courses (Core and Elective), arranged semester wise. The importance of each course is defined in terms of credits attached to it. The credit units attached to each course has been further defined in terms of contact hours i.e. Lecture Hours (L), Tutorial Hours (T), Practical Hours (P). Towards earning credits in terms of contact hours, 1 Lecture and 1 Tutorial per week are rated as 1 credit each and 2 Practical hours per week are rated as 1 credit. Thus, for example, an L-T-P structure of 3-0-0 will have 3 credits, 3-1-0 will have 4 credits, and 3-1-2 will have 5 credits.

The Curriculum and Scheme of Examination of each course includes the course objectives, course contents, scheme of examination and the list of text and references. The scheme of examination defines the various components of evaluation and the weightage attached to each component. The different codes used for the components of evaluation and the weightage attached to them are:

<u>Components</u>	<u>Codes</u>	<u>Weightage (%)</u>
Case Discussion/ Presentation/ Analysis	C	05 - 10
Home Assignment	H	05 - 10
Project	P	05 - 10
Seminar	S	05 - 10
Viva	V	05 - 10
Quiz	Q	05 - 10
Class Test	CT	10 - 15
Attendance	A	05
End Semester Examination	EE	70

It is hoped that it will help the students study in a planned and a structured manner and promote effective learning. Wishing you an intellectually stimulating stay at Amity University.

Marh, 2019

PROGRAM OUTCOMES

- PO1. Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- PO2. Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3. Design/Development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- PO4. Conduct Investigations of Complex Problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- PO5. Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
- PO6. The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- PO7. Environment and Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9. Individual and Team Work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10. Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- PO11. Life-long Learning:** Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.
- PO12. Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects

PROGRAM SPECIFIC OUTCOMES

- PSO1.** Apply principles of mechanics and basic sciences to analyze civil engineering structures
- PSO2.** Survey, map, measure and analyze data for sustainable infrastructure planning.
- PSO3.** Characterize and evaluate materials for adoptability in civil engineering projects.
- PSO4.** Analyze and design concrete & steel structures, earthen embankments, irrigation structures, water supply, waste treatment systems and transport systems.
- PSO5.** Apply best management practices for construction and maintenance of infrastructure facilities.
- PSO6.** Predict and forecast societal needs, floods, droughts, pollution and travel demand.
- PSO7.** Work and lead in multi-disciplinary projects and demonstrate social responsibility and professional ethics.
- PSO8.** Engage in research and life-long learning to adapt to changing environment.

PROGRAMME STRUCTURE

FIRST SEMESTER						
Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credits	Hours
BTCE-101	Mathematics – I (Calculus and Linear Algebra)	3	1	-	4	40
BTCE-102	Chemistry – I (Concepts in Chemistry for Engineering)	3	1	-	4	40
BTCE-103	Basic Electrical Engineering	3	1	-	4	40
BTCE-104	Engineering Graphics & Design	1	-	-	1	10
BTCE-120	Chemistry - I Lab	-	-	4	2	40
BTCE-121	Basic Electrical Engineering Lab	-	-	2	1	20
BTCE-122	Engineering Graphics & Design Lab	-	-	4	2	40
BTCE-141	Communication Skill-I (English Language Usage Essentials)	1	-	-	1	10
BTCE-142	Environmental Studies - I	2	-	-	2	20
BTCE-143	Behavioural Science - I	1	-	-	1	10
BTCE-144	French	2	-	-	2	20
CBCS		3	-	-	3	30
TOTAL CREDITS (Including CBCS)					27	
Total Hrs Including CBCS per week					32	
Total Hrs in the Semester					320	

SECOND SEMESTER						
Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credits	Hours
BTCE-201	Mathematics – II (Ordinary Differential Equations and Complex Variable)	3	1	-	4	40
BTCE-202	Physics (Mechanics)	3	1	-	4	40
BTCE-203	Programming for Problem Solving	3	-	-	3	30
BTCE-204	Workshop/ Manufacturing Practices	1	-	-	1	10
BTCE-220	Physics (Mechanics) Lab	-	-	4	2	40
BTCE-221	Programming for Problem Solving Lab	-	-	4	2	40
BTCE-222	Workshop/ Manufacturing Practices Lab	-	-	4	2	40
BTCE-241	Communication Skill-II (Introduction to Communication Skill)	1	-	-	1	10
BTCE-242	Environmental Studies - II	2	-	-	2	20
BTCE-243	Behavioural Science - II	1	-	-	1	10
BTCE-244	French - II	2	-	-	2	20
CBCS		3	-	-	3	30
TOTAL CREDITS (Including CBCS)					27	
Total Hrs Including CBCS					33	
Total Hrs in the Semester					330	



Annexure-1
PROGRAMME STRUCTURE

THIRD SEMESTER

Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credits	Hours
BTCE 301	Applied Mathematics-III (Ordinary differential equations and complex variables)	3	-	-	3	30
BTCE 302	Computer-Aided Civil Engineering Drawing	2	-	-	2	20
BTCE 303	Engineering Mechanics	3	1	-	4	40
BTCE 304	Energy Science & Engineering	1	1	-	2	20
BTCE 305	Basic Civil Engineering	2	-	-	2	20
BME 104	Mechanical Engineering	2	-	-	2	20
ECE 302	Basic Electronics	2	-	-	2	20
BIOC 301	Biology for Engineers	2	-	-	2	20
BIOC 302	Life Science	2	-	-	2	20
BTCE 322	Computer-aided Civil Engineering Drawing Lab	-	-	2	1	20
ECE 322	Basic Electronics Lab	-	-	2	1	20
BCU 341	Communication Skill-III	1	-	-	1	10
BSU 343	Behavioural Science III	1	-	-	1	10
FLU 344	French	2	-	-	2	20
BTCE 360	Term paper Evaluation				2	
	CBCS	3	-	-	3	30
TOTAL CREDITS (Including CBCS)					32	
Total Hrs. including CBCS					32	
Total Hrs in the Semester					320	

FOURTH SEMESTER

Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credits	Hours
BTCE 401	Materials, Testing & Evaluation	2	-	-	2	20
BTCE 402	Engineering Geology	2	-	-	2	20
BTCE 403	Surveying	1	1	-	2	20
BTCE 404	Fluid Mechanics	2	-	-	2	20
BTCE 405	Solid Mechanics	2	-	-	2	20
BTCE 406	Disaster Preparedness & Planning	1	1	-	2	20
BTCE 407	Civil Engineering - Societal & Global Impact	1	1	-	2	20
ECE 402	Instrumentation & Sensor Technologies for Civil Engineering Applications	2	-	-	2	20
BTCE 421	Materials Testing and Evaluation Lab			2	1	20
BTCE 422	Engineering Geology Lab	-	-	2	1	20
BTCE 423	Surveying lab	-	-	2	1	20
BTCE 424	Fluid Mechanics Lab	-	-	2	1	20
ECE 422	Instrumentation & Sensor Technologies for Civil Engineering Applications Lab	-	-	2	1	20
BCU 441	Communication Skill-IV	1	-	-	1	10
BSU 443	Behavioural Science IV	1	-	-	1	10
FLU 444	French	2			2	20
CBCS		4	-	-	4	40
TOTAL CREDITS (Including CBCS)					29	
Total Hrs. including CBCS					34	
Total Hrs in the Semester					340	

PRACTICAL TRAINING: 6 – 8 WEEKS

**Bachelor of Technology
(Civil Engineering)**

Programme Code: BTCE

**Duration – 4 Years Full Time
(2018-22)**

OVERALL CREDIT

Sr. No.	Semester	No. of Credits	No. of Hours
1	I	27	32
2	II	27	33
3	III	32	32
4	IV	29	34
1st and 2nd Year Total Credits		115	131



**Bachelor of Technology
(Civil Engineering)**

CE

CURRICULUM

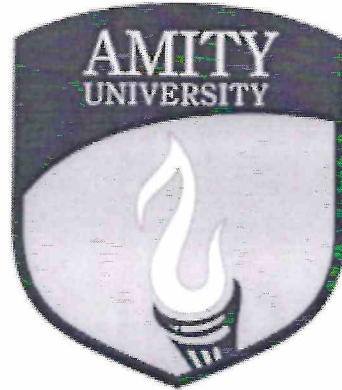
**1st & 2nd YEAR
(2019-23 Batch)**

(AICTE)

**Bachelor of Technology
(Civil Engineering)**

Programme Code: BTCE

Duration – 4 Years Full Time



**Programme Structure
&
Curriculum & Scheme of Examination**

**2019-23
(As per AICTE)**

**AMITY UNIVERSITY
MADHYA PRADESH**

PREAMBLE

Amity University aims to achieve academic excellence by providing multi-faceted education to students and encourage them to reach the pinnacle of success. The University has designed a system that would provide rigorous academic programme with necessary skills to enable them to excel in their careers.

This booklet contains the Programme Structure, the Detailed Curriculum and the Scheme of Examination. The Programme Structure includes the courses (Core and Elective), arranged semester wise. The importance of each course is defined in terms of credits attached to it. The credit units attached to each course has been further defined in terms of contact hours i.e. Lecture Hours (L), Tutorial Hours (T), Practical Hours (P). Towards earning credits in terms of contact hours, 1 Lecture and 1 Tutorial per week are rated as 1 credit each and 2 Practical hours per week are rated as 1 credit. Thus, for example, an L-T-P structure of 3-0-0 will have 3 credits, 3-1-0 will have 4 credits, and 3-1-2 will have 5 credits.

The Curriculum and Scheme of Examination of each course includes the course objectives, course contents, scheme of examination and the list of text and references. The scheme of examination defines the various components of evaluation and the weightage attached to each component. The different codes used for the components of evaluation and the weightage attached to them are:

<u>Components</u>	<u>Codes</u>	<u>Weightage (%)</u>
Case Discussion/ Presentation/ Analysis	C	05 - 10
Home Assignment	H	05 - 10
Project	P	05 - 10
Seminar	S	05 - 10
Viva	V	05 - 10
Quiz	Q	05 - 10
Class Test	CT	10 - 15
Attendance	A	05
End Semester Examination	EE	70

It is hoped that it will help the students study in a planned and a structured manner and promote effective learning. Wishing you an intellectually stimulating stay at Amity University.

March, 2019

PROGRAM OUTCOMES

PO1. Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2. Problem Analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3. Design/Development of Solutions :Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4. Conduct Investigations of Complex Problems :Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5. Modern Tool Usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

PO6. The Engineer and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7. Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9. Individual and Team Work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11. Life-long Learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PO12. Project Management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects

PROGRAM SPECIFIC OUTCOMES

PSO1. Apply principles of mechanics and basic sciences to analyze civil engineering structures

PSO2. Survey, map, measure and analyze data for sustainable infrastructure planning.

PSO3. Characterize and evaluate materials for adoptability in civil engineering projects.

PSO4. Analyze and design concrete & steel structures, earthen embankments, irrigation structures, water supply, waste treatment systems and transport systems.

PSO5. Apply best management practices for construction and maintenance of infrastructure facilities.

PSO6. Predict and forecast societal needs, floods, droughts, pollution and travel demand.

PSO7. Work and lead in multi-disciplinary projects and demonstrate social responsibility and professional ethics.

PSO8. Engage in research and life-long learning to adapt to changing environment.

FIRST SEMESTER						
Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credits	Hours
MAT-101	Applied Mathematics – I (Calculus and Linear Algebra)	3	1	-	4	40
CHE101	Applied Chemistry I	3	1	-	4	40
ECE 101	Basic Electrical Engineering	3		-	3	30
BME 101	Engineering Graphics & Design	1	-	-	1	10
CHE121	Applied Chemistry Lab I	-	-	2	1	20
ECE 121	Basic Electrical Engineering Lab	-	-	2	1	20
BME 121	Engineering Graphics & Design Lab	-	-	4	2	40
BCU-141	Communication Skill-I	1	-	-	1	10
EVS-142	Environmental Studies - I	2	-	-	2	20
BSU-143	Behavioural Science - I	1	-	-	1	10
FLU-144	French	2	-	-	2	20
CBCS		3	-	-	3	30
TOTAL CREDITS (Including CBCS)					25	
Total Hrs Including CBCS per week					29	
Total Hrs in the Semester					290	



SECOND SEMESTER						
Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credits	Hours
MAT-201	Mathematics – II (Ordinary & Partial Differential Equations and Transform)	3	1	-	4	40
PHY-101	Applied Physics-1	3	1	-	4	40
BTC 101	Programming for Problem Solving	3	-	-	3	30
BME 102	Workshop/ Manufacturing Practices	1	-	-	1	10
PHY-121	Applied Physics lab-1	-	-	2	1	20
BTC 121	Programming for Problem Solving Lab	-	-	4	2	40
BME 122	Workshop/ Manufacturing Practices Lab	-	-	4	2	40
BCU-241	Communication Skill-II	1	-	-	1	10
EVS-242	Environmental Studies - II	2	-	-	2	20
BSU-243	Behavioural Science - II	1	-	-	1	10
FLU-244	French	2	-	-	2	20
CBCS		3	-	-	3	30
TOTAL CREDITS (Including CBCS)					26	
Total Hrs Including CBCS					31	
Total Hrs in the Semester					310	

Annexure-1
PROGRAMME STRUCTURE

THIRD SEMESTER

Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credits	Hours
MAT-301	Applied Mathematics- III (Probability, Statistics and Numerical Methods)	3	-	-	3	30
BTCE 302	Computer-Aided Civil Engineering Drawing	2	-	-	2	20
BTCE 303	Engineering Mechanics	3	1	-	4	40
BTCE 304	Energy Science & Engineering	1	1	-	2	20
BTCE 305	Basic Civil Engineering	2	-	-	2	20
BME 104	Mechanical Engineering	2	-	-	2	20
ECE 302	Basic Electronics	2	-	-	2	20
BIOC 301	Biology for Engineers	2	-	-	2	20
BIOC 302	Life Science	2	-	-	2	20
BTCE 322	Computer-aided Civil Engineering Drawing Lab	-	-	2	1	20
ECE 322	Basic Electronics Lab	-	-	2	1	20
BCU 341	Communication Skill-III	1	-	-	1	10
BSU 343	Behavioural Science III	1	-	-	1	10
FLU 344	French	2	-	-	2	20
BTCE 330	Term paper Evaluation				2	
CBCS		3	-	-	3	30
TOTAL CREDITS (Including CBCS)					32	
Total Hrs. including CBCS					32	
Total Hrs in the Semester					320	



FOURTH SEMESTER

Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credits	Hours
BTCE 401	Materials, Testing & Evaluation	2	-	-	2	20
BTCE 402	Engineering Geology	2	-	-	2	20
BTCE 403	Surveying	1	1	-	2	20
BTCE 404	Fluid Mechanics	2	-	-	2	20
BTCE 405	Solid Mechanics	2	-	-	2	20
BTCE 406	Disaster Preparedness & Planning	1	1	-	2	20
BTCE 407	Civil Engineering - Societal & Global Impact	1	1	-	2	20
ECE 402	Instrumentation & Sensor Technologies for Civil Engineering Applications	2	-	-	2	20
BTCE 421	Materials Testing and Evaluation Lab			2	1	20
BTCE 422	Engineering Geology Lab	-	-	2	1	20
BTCE 423	Surveying lab	-	-	2	1	20
BTCE 424	Fluid Mechanics Lab	-	-	2	1	20
ECE 422	Instrumentation & Sensor Technologies for Civil Engineering Applications Lab	-	-	2	1	20
BCU 441	Communication Skill-IV	1	-	-	1	10
BSU 443	Behavioural Science IV	1	-	-	1	10
FLU 444	French	2			2	20
CBCS		4	-	-	4	40
TOTAL CREDITS (Including CBCS)					29	
Total Hrs. including CBCS					34	
Total Hrs in the Semester					340	

PRACTICAL TRAINING: 6 – 8 WEEKS

**Bachelor of Technology
(Civil Engineering)**

Programme Code: BTCE

**Duration – 4 Years Full Time
(2019-23)**

OVERALL CREDIT

Sr. No.	Semester	No. of Credits	No. of Hours
1	I	25	29
2	II	26	31
3	III	32	32
4	IV	29	34
1st and 2nd Year Total Credits		112	126


PROPOSED POLICY CHANGES IF ANY RELATED TO RESEARCH / GUIDELINES FOR REGISTRATION

The policy/Agenda issues discussed by URC are as numerated in succeeding paragraphs.

Research Subjects.

1. Ref Para 13(a) & (e) of Ordinance No. 12(Amended).
 - (a) The credit assigned to the Ph.D. course work shall be a minimum of 12 credits and a maximum of 16 credits.
 - (e) Each candidate will be required to take Course Units of minimum 12 credits, including compulsory paper on Research Methodology and specific Courses prescribed by the SRC and approved by DRC.
2. CoE proposed that the proposed topic of research ideally be short listed during SRC and the same be forwarded for tentative approval of Hon Vice Chancellor.
3. The candidates should plan and formulate the synopsis on the approved topics.
4. The point was agreed to and approved by URC.

Question Papers for Ph D Course Work Examination.

5. Ref Para 5(b)(i) and (iii) of Ordinance No. 12(Amended) pertaining to Ph D where in the SRC shall perform the following functions:-
 - (I) Invite the candidate for scrutinizing his research proposal to ensure that the proposal is suitable.
 - (II) Ascertain the availability of facilities required for the proposed research.
 - (III) Prescribe the Course Units to be taken by the candidate, subject to a minimum of two, or in exceptional cases, recommend exemption from the requirement with justification.
6. Hon Vice Chancellor restricted that at least one paper offered to the student shall pertain to the direction of research proposed by the student. The distribution of course work be as follows: -

(a) Paper-I	Research Methodology
(b) Paper-II	Review of Literature
(c) Paper-III	Broad study of Subject
(d) Paper-IV	Research area specific Subject

Minimum Acceptable Standards of Research Publications.

7. It was unanimously decided that UGC norms shall be the accepted norms for Minimum acceptable standards of Research Publications at AUMP and Ph D scholar must publish at least one (1) research paper in refereed journal and make two paper presentations in conferences/seminars before the submission of the dissertation/thesis for adjudication and produce evidence for the same in the form of presentation certificates and/or reprints.

REVIEW AND RECOMMENDATIONS IF ANY AREAS / THEMES/ TOPICS FOR RESEARCH

Nil Point

Member Secretary

Chairman – Hon Vice Chancellor




AMITY UNIVERSITY MADHYA PRADESH

(Established by Ritnand Balved Education Foundation)

Date: 30/01/2019


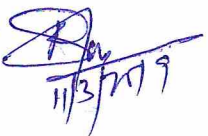
NOTE- SHEET

1. The Department of Electronics & Communication Engineering, ASET, AUMP, Board of Studies Meeting was held on **30 Jan 2019**.
2. The minutes of the meeting submitted for your kind perusal & approval please.


Prof. (Dr) Raghavendra Sharma
HoD(ECE)


Director-ASET


Dean (Academics)

Submit a copy (soft & hard) of BOS minutes & syllabus


11/3/19

Hon'ble Pro Vice Chancellor


M. Narasimha Murthy
12/08/19

Hon'ble Vice Chancellor


Umas.
12/3/19



Date: 30/01/2019

BOARD OF STUDIES (Electronics & Communication Engineering)
MINUTES OF THE MEETING
(06 Pages Only)

1. A meeting of board of studies of Department of Electronics & Communication Engineering, Amity School of Engineering & Technology, Amity University Madhya Pradesh was held on 30th January 2019 at AUMP, under the Chairmanship of Maj Gen (Dr) S C Jain VSM **** (Retd)**, Director (ASET). The following members attended the meeting:-
 - (a) **Chairman**: Maj Gen (Dr) S C Jain VSM **** (Retd)**, Director (ASET)
 - (b) **Member**
 - i) Dr. Aditya Trivedi, Professor, ABV-IIITM, Gwalior, External Member
 - ii) Dr. Raghavendra Sharma, Professor & Head ECE, Member
 - iii) Mrs. Rinkoo Bhatia, Assistant Professor, ECE, Member
 - iv) Dr. Vivek Singh Kushwah, Assistant Professor, ECE, Member
2. The agenda of the meeting included the following:
 - (a) **B.Tech ECE 2018-22 Batch**: In continuation with the 1st year AICTE model curriculum approved for B.Tech ECE in the academic year 2018-19, 2nd year B.Tech ECE scheme and syllabus has been put forward for approval for 2018-22 batch.
 - (b) **B.Tech ECE 2019-23 Batch**: Introducing new curriculum with uniform course coding for B.Tech ECE as per AICTE Model curriculum from the academic year 2019-20 (First year), 2020-21 (Second year) for 2019-23 batch.
 - (c) Discussion on trends and technologies in ECE and consideration of its inclusion in syllabus.
 - (d) Any other point with due permission of the Chairperson.

- (e) **Discussions/Comments:**
- a. (i) **Discussion:** The existing syllabus of the subjects offered by Department of ECE to I and II semester B.Tech. in CSE, ME and Civil and Syllabus of First year B.Tech. ECE was presented before the members of the Board of studies. The syllabus of all the subjects was reviewed.
- (ii) **Comments:** The existing syllabus is well aligned with the syllabus recommended by AICTE and few changes were recommended in some subjects. Uniform course coding has been adopted for common courses and value added courses.
- b. (i) **Discussion:** The syllabus of Second year ECE as per AICTE recommendation along with the syllabus of the subjects offered by ECE to other departments was presented to BOS members and reviewed.
- (ii) **Comments:** The syllabus recommended by AICTE has been adopted for Second year ECE and the subjects offered by ECE to other departments. Uniform course coding has been adopted for the common subjects and value added subjects of Second year.
- c. (i) **Discussion:** The syllabus of M. Tech, CBCS and Pre-PhD course work subjects was presented to BOS members and reviewed.
- (ii) **Comments:** The Syllabus of M. Tech., CBCS and Pre-PhD course work subjects is well aligned and needs no change. Uniform course coding has been adopted for Value added subjects of M. Tech. and CBCS subjects.



(f) **Recommendations:**

B. Tech Program

- i. As per the guidelines of AICTE 2018, Dept. of Electronics & Communication Engineering in ASET, AUMP, Gwalior has adopted the AICTE model curriculum from the academic year 2018-19 onwards. The BOS meeting had approved the first year ECE AICTE model curriculum and syllabus. Further in continuation, 2018-22 batch's second year B.Tech. in ECE **scheme and syllabus** put forward for the BOS member's kind approval. Uniform course coding has been adopted in all the courses except the Course code for Mathematics-III i.e. BTE-301 (remains same for 2nd year B,Tech ECE program for the academic year 2019-20) for batch-2018-22. **(Ref. Annexure-1)**
- ii. Uniform course coding has been recommended to all the courses B.Tech ECE programs from the academic year 2019-20 (First year), 2020-21 (Second year) for 2019-23 batch. The new curriculum as per the AICTE model curriculum with uniform course coding is put forward to the kind approval of BoS members. **(Ref. Annexure-2)**
- iii. Uniform Course coding has been adopted for value added courses for 2018-22 batch.
- iv. Uniform course coding has been adopted for value added courses (All semesters), Basic science courses (Physics, Chemistry, Maths) and courses offered to other Institutes by the department.
- v. Modified syllabus of Basic Electrical Engineering and Basic Electrical Engineering Lab was placed for first year. **(Ref Annexure -3).**
- vi. Industrial visit in BTE 303 and Electronics hardware project has been added in BTE-424 and both are compulsory.

M. Tech Program:

- i. There is no change in the scheme and syllabus of the course.
- ii. Uniform course coding has been adopted for value added courses (All semesters).

Pre Ph.D. Course:

Pre PhD course work subjects to be decided in accordance to the **Appendix-G** of URC dated February, 08, 2019.

CBCS:

- i. There is no change in the scheme and syllabus of the course.
- ii. Uniform course coding has been adopted for all courses offered by the department.
- iii. MOOC courses are included in two subjects (Embedded Systems, Wireless Communication) of semester-I.

S. No.	Name of Minor Track	Semester	Name of Course	Course -ID	Credits
1	Embedded Systems	I	Digital Circuits	noc19-ee51	3(12 week course)
2	Wireless Communication	I	Analog Electronic circuit	noc19-ee38	3(12 week course)

All the aforesaid points have been approved by all the board members present in the meeting.

(g) Summary of changes is given below: -

Codes:

(a) All codes are subject to change as per further alignment and higher directions.

(b) Codes and syllabus for the subjects offered outside ASET are being decided in consultation with the respective HOI's.

Current Syllabus					Proposed Changes/ Modifications			
Sr. No	Programme	Course Title	Old Course Code	No. of Credits	Addition/deletion in the Syllabus	New course title	New Course Code	No. of Credits
1	B. Tech ME Sem-I	Basic Electrical Engineering	BTM 103	4	Few modules Revised	No Change	ECE 101	3
2	B. Tech CE Sem-I	Basic Electrical Engineering	BTCE 103					
3	B. Tech CSE Sem- II	Basic Electrical Engineering	BTC 203					
4	B. Tech ECE Sem- II	Basic Electrical Engineering	BTE 203					
5	B.Tech ME I Sem	Basic Electrical Engineering Lab	BTM 121	1	Few experiments revised	No Change	ECE 121	1
6	B.Tech CE I Sem	Basic Electrical Engineering Lab	BTCE 121					
7	B.Tech CSE II Sem	Basic Electrical Engineering Lab	BTC 221					
8	B.Tech EC II Sem	Basic Electrical Engineering Lab	BTE 221					
9	BCA I Sem	Digital Electronics	BCA 104	4	Syllabus Revised	Digital Electronics and Logic Design	ECE 301	3
10	BCA I Sem	-	-	-	New Subject	Digital Electronics and Logic Design Lab	ECE 321	1

- Note:** 1. The Codes BTM 103, BTCE 103, BTC 203, BTE 203 are renamed as ECE 101.
2. The Codes BTM 121, BTCE 121, BTC 221, BTE 221 are renamed as ECE 121.

New Courses offered by Dept in III & IV Semester:


Sr. No.	Programme	Course Title	New Course Code	No. of Credits
1	B.Tech CSE III Sem	Digital Electronics and Logic Design	ECE 301	3
2	B.Tech CSE III Sem	Digital Electronics and Logic Design Lab	ECE 321	1
3	B.Tech CSE IV Sem	Analog Electronic Circuits	ECE 401	3
4	B.Tech CSE IV Sem	Analog Electronic Circuits Lab	ECE 421	1
5	B.Tech CE III Sem	Basic Electronics	ECE 302	2
6	B.Tech ME III Sem			
7	B.Tech CE III Sem			
8	B.Tech ME III Sem	Basic Electronics Lab	ECE 322	1
9	B.Tech CE IV Sem	Instrumentation & Sensor Technologies for Civil Engineering Applications	ECE 402	2
10	B.Tech CE IV Sem	Instrumentation & Sensor Technologies for Civil Engineering Applications Lab	ECE 422	1

BOARD OF STUDIES (B.Tech, ECE, Second Year)
MINUTES OF THE MEETING

Signature of Members:




Dr. Vivek Singh Kushwah
Member




Mrs. Rinkoo Bhatia
Member




Dr. Raghavendra Sharma
Member



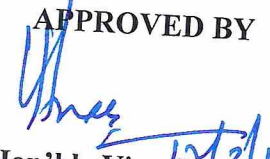
Maj Gen (Dr) S C Jain
Chairman- BOS



Dr. Aditya Trivedi
External Member



Prof. (Dr.) M.P. Kaushik
Hon'ble Pro Vice Chancellor
AUMP, Gwalior

APPROVED BY


Hon'ble Vice Chancellor
AUMP, Gwalior



AMITY UNIVERSITY


MADHYA PRADESH

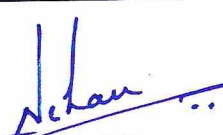
(Established by Ritnand Balved Education Foundation)

Date: 11/03/2019

NOTE- SHEET

1. The Department of Mechanical Engineering, ASET, AUMP, Board of Studies Meeting was held on 11 March 2019.
2. The minutes of the meeting submitted for your kind perusal & approval please.

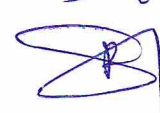

Dr. Moon Banerjee
Asst. Prof.(ME)


Mr. Nasir Khan
HoD(ME)


Director-ASET


Dean (Academics)


Submit a copy (soft & hard) of BOS minutes and syllabus.


11/3/2019

Hon'ble Pro Vice Chancellor


11/03/19

Hon'ble Vice Chancellor


11/3/19



AMITY UNIVERSITY

MADHYA PRADESH

(Established by Ritnand Balved Education Foundation)

Date: 11/03/2019

BOARD OF STUDIES (Mechanical Engineering)

MINUTES OF THE MEETING

(5 Pages Only)

1. Board of Studies (BoS) meeting has been held by the Mechanical Engineering, Amity School of Engineering & Technology, Amity University Madhya Pradesh on March 11, 2019 at AUMP, Gwalior, under the Chairmanship of Maj Gen (Dr) SC Jain, VSM** (Retd), Director (ASET). The following members attended the meeting: -

(a) **Chairman:** Maj Gen (Dr) SC Jain, VSM** (Retd), Director (ASET)

(b) **Members**

- i) Dr. Chaitanya Sharma, Associate Professor, Rustam Ji Institute of Technology, Gwalior- External Member.
- ii) Mr. Nasir Khan, Off Head, Dept of Mechanical Engineering, Amity University Madhya Pradesh, Gwalior, Member
- iii) Dr. Moon Banerjee, Asst. Professor, Dept of Mechanical Engineering, Amity University Madhya Pradesh, Gwalior, Member.
- iv) Dr. Abhishek Sharma, Asst. Professor, Dept of Mechanical Engineering, Amity University Madhya Pradesh, Gwalior, Member

2. The agenda of the meeting includes the following points:

(a) **B.Tech ME 2018-22 Batch:**

In continuation with the 1st year AICTE model curriculum approved for B.Tech ME in the academic year 2018-19, 2nd year B.Tech ME scheme and syllabus has been put forward for approval for 2018-22 batch.

(b) **B.Tech ME 2019-23 Batch:**

Introducing new curriculum with uniform course coding for B.Tech ME as per AICTE Model curriculum from the academic year 2019-20 & 2020-21(1st & 2nd year) for 2019-23 batch.

(c) Discussion on mechanical trends and technological advancement to improve the skill sets in graduates in mechanical engineering field and consideration of their inclusion in syllabus.

(d) Any other point with due permission of the Chairperson.

(e) **Discussions/Comments:**

a. (i) **Discussion:** The existing syllabi of the courses offered by Department of ME in 1st and 2nd semester B.Tech CSE, ECE, ME, Bio-Tech and CE presented before the members of the Board of Studies. The syllabus of all the courses has been reviewed.

(ii) **Comments:** The existing syllabus is well aligned with the syllabus recommended by AICTE model curriculum and few changes were recommended in some subjects. Uniform course coding has been adopted for common courses and value-added courses.

b. (i) **Discussion:** The scheme and syllabus of Second year B.Tech ME presented before the members of the Board of Studies. The syllabus of all the courses has been reviewed. Further the courses offered by the Dept of ME to 2nd year (2018-22 batch), CE also reviewed.

(ii) **Comments:** The syllabus recommended by AICTE model curriculum has been adopted for Second year B.Tech ME and the courses offered by Dept. of ME to other departments. Uniform course coding has been adopted for the common courses and value added courses.

c. (i) **Discussion:** The syllabus of M. Tech, CBCS and Pre-PhD course work courses was presented to BOS members and reviewed.

(ii) **Comments:** The Syllabus of M. Tech., CBCS and Pre-PhD course work subjects is well aligned and needs no change. Uniform course coding has been adopted for Value added subjects of M. Tech. and CBCS subjects.

f. Recommendations:

B. Tech Program:

i. **ME 2019-23 Batch:** Uniform course coding has been recommended to all the courses B.Tech ME programs from the academic year 2019-20, 2020-21 (1st & 2nd year) for 2019-23 batch. The new curriculum as per the AICTE model curriculum with uniform course coding is put forward to the kind approval of BoS members. **(Refer Annexure -I)**

ii. Uniform Course coding has been adopted for value added courses for 2019-23 batch.

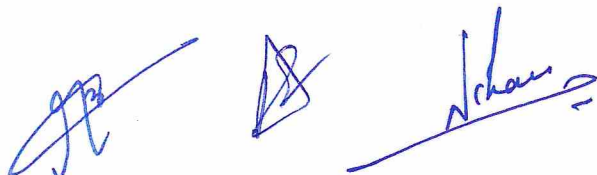
iii. Uniform course coding has been adopted for value added courses (All semesters), Basic science courses (Physics, Chemistry, Maths) and courses offered to other Institutes by the department.

iv. Industrial visit in BTM 402 and Mechanical project has been added in BTM-422 and both are compulsory.

M. Tech Program:

i. There is no change in the scheme and syllabus of the course.

ii. Uniform course coding has been adopted for value added courses (All semesters).



Pre Ph.D. Course:

Pre PhD course work subjects to be decided in accordance to the **Appendix-G** of URC dated February, 08, 2019.

CBCS:

- i. There is no change in the scheme and syllabus of the course.
- ii. Uniform course coding has been adopted for all courses offered by the department.
- iii. MOOC courses are included in three courses as per the UGC guidelines (Robotics, Renewable Energy and Mechanical Engineering) in Semester-III.

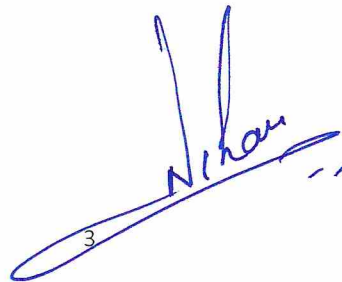
S.No	Name of the Minor Track	MOOC Course by UGC	Course IDs	Semester	Credits
1	Robotics	Industrial Safety Engineering	noc19-me40	III	3
2	Renewable Energy	Product Design Using Value Engineering	noc19-me51	III	3
3	Mechanical Engineering	Manufacturing System Technology	noc19-me45	III	3

All the aforesaid points have been approved by all the board members present in the meeting.

(g) Summary of changes are given below: -

Codes:

- (a) All codes are subject to change as per further alignment and higher directions.
- (b) Codes and syllabus for the subjects offered outside ASET are being decided in consultation with the respective HOI's.


3

Present Course Code					Proposed Changes/ Modifications						
Sr.No	Programme	Course Title	Old Course Code	No. of Credits	Title/ Syllabu	Uniform Course	No. of Credits				
1	B.Tech ME I Sem	Engineering Graphics and Design	BTM 104	1	No Changes in Both title and Syllabus for the proposed course	BME 101	1				
2	B.Tech CE I Sem		BTCE 104								
3	B.Tech CSE II Sem		BTC 204								
4	B.Tech EC II Sem		BTE 204								
5	B.Tech ME I Sem	Engineering Graphics and Design Lab	BTM 122	2		No Changes in Both title and Syllabus for the proposed course	BME 121	2			
6	B.Tech CE I Sem		BTCE 122								
7	B.Tech CSE II Sem		BTC 222								
8	B.Tech EC II Sem		BTE 222								
9	B.Tech CSE I Sem	Workshop/ Manufacturing Practice	BTC 104	1			No Changes in Both title and Syllabus for the proposed course	BME 102	1		
10	B.Tech EC I Sem		BTE 104								
11	B.Tech ME II Sem		BTM 204								
12	B.Tech CE II Sem		BTCE 204								
13	B.Tech CSE I Sem	Workshop Manufacturing Practice Lab	BTC 122	2				No Changes in Both title and Syllabus for the proposed course	BME 122	2	
14	B.Tech EC I Sem		BTE 122								
15	B.Tech ME II Sem		BTM 222								
16	B.Tech CE II Sem		BTCE 222								
17	BCA II Sem	Production & operations	BCA 204	3					No Changes in Both title and Syllabus for the proposed course	BME 103	3
18	B.Tech CE IV sem	Mechanical Engineering	BTCE 401	2						No change	2

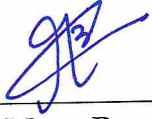
BME – Basics of Mechanical Engineering

NOTE:

1. The codes of BTM-104, BTCE-104, BTC-204 and BTE-204 are renamed as BME-101.
2. The codes of BTM-122, BTCE-122, BTC-222 and BTE-222 are renamed as BME-121.
3. The codes of BTC-104, BTE-104, BTM-204 and BTCE-204 are renamed as BME-102.
4. The codes of BTC-122, BTE-122, BTM-222 and BTCE-222 are renamed as BME-122.
5. The code of BCA-204 is renamed as BME-103.

BOARD OF STUDIES (B.Tech, ME, Second Year)
MINUTES OF THE MEETING

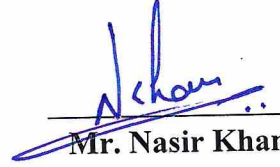
Signature of Members:



Dr. Moon Banerjee



Dr. Abhishek Sharma



Mr. Nasir Khan



Associate Prof. (Dr.) Chaitanya Sharma
External Member



Maj Gen (Dr) S C Jain
Chairman- BOS



Prof.(Dr.) M.P. Kaushik
Hon'ble Pro Vice Chancellor
AUMP, Gwalior

APPROVED BY



Hon'ble Vice Chancellor
AUMP, Gwalior

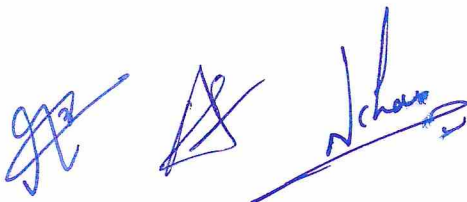
**Bachelor of Technology
(Mechanical Engineering)**

ME

CURRICULUM

**1st & 2nd YEAR
(2019-23 Batch)**

(AICTE)



**Bachelor of Technology
(Mechanical Engineering)**

Programme Code: BTM

Duration – 4 Years Full Time



**Programme Structure
&
Curriculum & Scheme of Examination**

**2019-23
(As per AICTE)**

**AMITY UNIVERSITY
MADHYA PRADESH**

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PREAMBLE

Amity University aims to achieve academic excellence by providing multi-faceted education to students and encourage them to reach the pinnacle of success. The University has designed a system that would provide rigorous academic programme with necessary skills to enable them to excel in their careers.

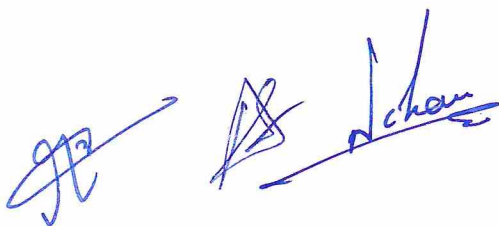
This booklet contains the Programme Structure, the Detailed Curriculum and the Scheme of Examination. The Programme Structure includes the courses (Core and Elective), arranged semester wise. The importance of each course is defined in terms of credits attached to it. The credit units attached to each course has been further defined in terms of contact hours i.e. Lecture Hours (L), Tutorial Hours (T), Practical Hours (P). Towards earning credits in terms of contact hours, 1 Lecture and 1 Tutorial per week are rated as 1 credit each and 2 Practical hours per week are rated as 1 credit. Thus, for example, an L-T-P structure of 3-0-0 will have 3 credits, 3-1-0 will have 4 credits, and 3-1-2 will have 5 credits.

The Curriculum and Scheme of Examination of each course includes the course objectives, course contents, scheme of examination and the list of text and references. The scheme of examination defines the various components of evaluation and the weightage attached to each component. The different codes used for the components of evaluation and the weightage attached to them are:

<u>Components</u>	<u>Codes</u>	<u>Weightage (%)</u>
Case Discussion/ Presentation/ Analysis	C	05 - 10
Home Assignment	H	05 - 10
Project	P	05 - 10
Seminar	S	05 - 10
Viva	V	05 - 10
Quiz	Q	05 - 10
Class Test	CT	10 - 15
Attendance	A	05
End Semester Examination	EE	70

It is hoped that it will help the students study in a planned and a structured manner and promote effective learning. Wishing you an intellectually stimulating stay at Amity University.

March, 2019

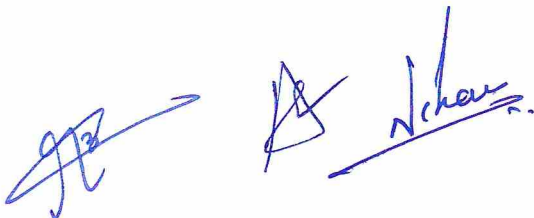


PROGRAM OUTCOMES

- PO1. Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- PO2. Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3. Design/Development of Solutions :**Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- PO4. Conduct Investigations of Complex Problems :**Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- PO5. Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
- PO6. The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- PO7. Environment and Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9. Individual and Team Work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10. Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- PO11. Life-long Learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.
- PO12. Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects




PROGRAM SPECIFIC OUTCOMES

- PSO1. Professional Skills :** An ability to understand the basic concepts in Mechanical Engineering and to apply them to various areas, like Automobile, power plant, Production, Manufacturing etc., in the design and implementation of complex systems.
- PSO2. Problem-solving skills:** An ability to solve complex Mechanical Engineering problems, using latest hardware and software tools, along with analytical skills to arrive cost effective and appropriate solutions.
- PSO3. Successful career and Entrepreneurship:** An understanding of social-awareness & environmental-wisdom along with ethical responsibility to have a successful career and to sustain passion and zeal for real-world applications using optimal resources as an Entrepreneur.



FIRST SEMESTER						
Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credits	Hours
MAT-101	Applied Mathematics – I (Calculus and Linear Algebra)	3	1	-	4	40
CHE101	Applied Chemistry I	3	1	-	4	40
ECE 101	Basic Electrical Engineering	3	-	-	3	30
BME 101	Engineering Graphics & Design	1	-	-	1	10
CHE121	Applied Chemistry Lab I	-	-	2	1	20
ECE 121	Basic Electrical Engineering Lab	-	-	2	1	20
BME 121	Engineering Graphics & Design Lab	-	-	4	2	40
BCU-141	Communication Skill-I	1	-	-	1	10
EVS-142	Environmental Studies - I	2	-	-	2	20
BSU-143	Behavioural Science - I	1	-	-	1	10
FLU-144	French	2	-	-	2	20
CBCS		3	-	-	3	30
TOTAL CREDITS (Including CBCS)					25	
Total Hrs Including CBCS per week						29
Total Hrs in the Semester						290

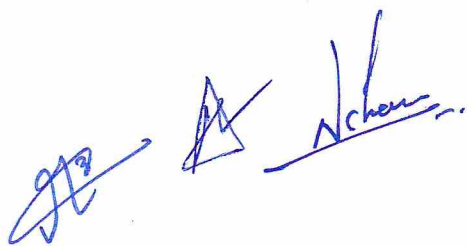
SECOND SEMESTER						
Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credits	Hours
MAT-201	Mathematics – II (Ordinary & Partial Differential Equations and Transform)	3	1	-	4	40
PHY-101	Applied Physics-I	3	1	-	4	40
BTC 101	Programming for Problem Solving	3	-	-	3	30
BME 102	Workshop/ Manufacturing Practices	1	-	-	1	10
PHY-121	Applied Physics lab-I	-	-	2	1	20
BTC 121	Programming for Problem Solving Lab	-	-	4	2	40
BME 122	Workshop/ Manufacturing Practices Lab	-	-	4	2	40
BCU-241	Communication Skill-II	1	-	-	1	10
EVS-242	Environmental Studies - II	2	-	-	2	20
BSU-243	Behavioural Science - II	1	-	-	1	10
FLU-244	French	2	-	-	2	20
CBCS		3	-	-	3	30
TOTAL CREDITS (Including CBCS)					26	
Total Hrs Including CBCS						31
Total Hrs in the Semester						310
TERM PAPER DURING SUMMER BREAK						

Annexure-1
PROGRAMME STRUCTURE

THIRD SEMESTER

THIRD SEMESTER						
Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credits	Hours
MAT-301	Applied Mathematics- III (Probability, Statistics and Numerical Methods)	3	-	-	3	30
PHY 303	Applied Physics-II	2	1	-	3	30
BTM-302	Thermodynamics	2	1	-	3	30
BTM-304	Material Science & Metallurgy	3	-	-	3	30
BTM-305	Engineering Mechanics	2	1	-	3	30
ECE 302	Basic Electronics	2	-	-	2	20
PHY 323	Applied Physics II Lab	-	-	2	1	20
BTM-321	Machine Drawing with CAD Lab	-	-	2	1	20
BTM-322	Thermodynamics Lab	-	-	2	1	20
ECE 322	Basic Electronics Lab	-	-	2	1	20
BCU 341	Communication Skill-III	1	-	-	1	10
BSU 343	Behavioural Science-III	1	-	-	1	10
FLU 344	French	2	-	-	2	20
BTM 330	Term Paper (Evaluation (NTCC))				2	
CBCS		3	-	-	3	30
TOTAL CREDITS (Including CBCS)					30	
Total Hrs Including CBCS per week						32
Total Hrs in the Semester						320



FOURTH SEMESTER

FOURTH SEMESTER						
Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credits	Hours
BTM-401	Applied Thermodynamics	3	1	-	4	40
BTM-402	Fluid Mechanics	3	1	-	4	40
BTM-403	Strength of Materials	3	1	-	4	40
BTM-404	Instrumentation & Control	2	1	-	3	30
BTM-421	Applied Thermodynamics Lab	-	-	2	1	20
BTM-422	Fluid Mechanics Lab	-	-	2	1	20
BTM-423	Strength of Materials Lab	-	-	2	1	20
BCU 441	Communication Skills-IV	1	-	-	1	10
BSU 443	Behavioural Science-IV	1	-	-	1	10
FLU 444	French	2	-	-	2	20
CBCS		4	-	-	4	30
TOTAL CREDITS (Including CBCS)					26	
Total Hrs Including CBCS						29
Total Hrs in the Semester						290

PRACTICAL TRAINING: 6 – 8 WEEKS

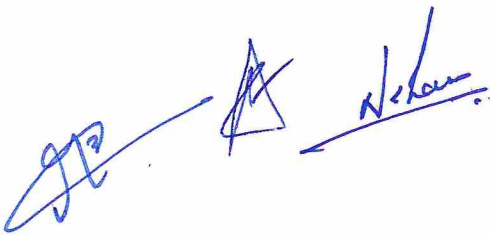
**Bachelor of Technology
(Mechanical Engineering)**

Programme Code: BTM

Duration – 4 Years Full Time

OVERALL CREDIT

Sr. No.	Semester	No. of Credits	No. of Hours
1	I	25	29
2	II	26	31
3	III	30	32
4	IV	26	29
1st and 2nd Year Total Credits		107	121





PROPOSED POLICY CHANGES IF ANY RELATED TO RESEARCH / GUIDELINES FOR REGISTRATION

The policy/Agenda issues discussed by URC are as numerated in succeeding paragraphs.

Research Subjects.

1. Ref Para 13(a) & (e) of Ordinance No. 12(Amended).
 - (a) The credit assigned to the Ph.D. course work shall be a minimum of 12 credits and a maximum of 16 credits.
 - (e) Each candidate will be required to take Course Units of minimum 12 credits, including compulsory paper on Research Methodology and specific Courses prescribed by the SRC and approved by DRC.
2. CoE proposed that the proposed topic of research ideally be short listed during SRC and the same be forwarded for tentative approval of Hon Vice Chancellor.
3. The candidates should plan and formulate the synopsis on the approved topics.
4. The point was agreed to and approved by URC.

Question Papers for Ph D Course Work Examination.

5. Ref Para 5(b)(i) and (iii) of Ordinance No. 12(Amended) pertaining to Ph D where in the SRC shall perform the following functions:-
 - (I) Invite the candidate for scrutinizing his research proposal to ensure that the proposal is suitable.
 - (II) Ascertain the availability of facilities required for the proposed research.
 - (III) Prescribe the Course Units to be taken by the candidate, subject to a minimum of two, or in exceptional cases, recommend exemption from the requirement with justification.
6. Hon Vice Chancellor restricted that at least one paper offered to the student shall pertain to the direction of research proposed by the student. The distribution of course work be as follows: -

(a) Paper-I	Research Methodology
(b) Paper-II	Review of Literature
(c) Paper-III	Broad study of Subject
(d) Paper-IV	Research area specific Subject

Minimum Acceptable Standards of Research Publications.

7. It was unanimously decided that UGC norms shall be the accepted norms for Minimum acceptable standards of Research Publications at AUMP and Ph D scholar must publish at least one (1) research paper in refereed journal and make two paper presentations in conferences/seminars before the submission of the dissertation/thesis for adjudication and produce evidence for the same in the form of presentation certificates and/or reprints.

REVIEW AND RECOMMENDATIONS IF ANY AREAS / THEMES/ TOPICS FOR RESEARCH

Nil Point

Member Secretary

Chairman – Hon Vice Chancellor
