

**Minutes of the 6th Meeting of the "Board of Studies" in Civil Engineering, HBTU
Kanpur held on 22-10-2022, 11:30 AM**

The 6th meeting of the Board of Studies of Civil Engineering was held at 11.30 am on 22.10.2022. The following attended the meeting:

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|--|----------|
| 1. Prof. Tarun Gupta, IIT Kanpur (Joined Online) | Member |
| 2. Prof. R.P. Tiwari, MNNIT Allahabad(Joined Online) | Member |
| 3. Prof. S. K. Katiyar, MANIT Bhopal(Joined Online) | Member |
| 4. Prof. S. P. Shukla, REC Banda(Joined Online) | Member |
| 5. Mr. Manoj Kulshrestha, J. K. Cement, New Delhi(Joined Online) | Member |
| 6. Mr. Arvind Garg, M.D. , Techpro Engineers Pvt. Ltd. | Member |
| 7. Prof. Sunil Kumar, CED HBTU Kanpur | Member |
| 8. Prof. Pradeep Kumar, CED HBTU Kanpur | Member |
| 9. Mr. Prithvi Pati, CED HBTU Kanpur | Member |
| 10. Dr. Deepesh Singh, HBTI Kanpur (Joined online) | Member |
| 11. Dr. Kavita Tandon, CED HBTU Kanpur | Member |
| 12. Dr. Rajiv Ganguly, CED HBTU Kanpur | Member |
| 13. Ms. Kajol Priya, CED HBTU Kanpur | Member |
| 14. Ms. Shivani Koshtha, CED HBTU Kanpur | Member |
| 15. Mr. J P Nayak, CED HBTU Kanpur | Member |
| 16. Mr. Manish Kumar, CED HBTU Kanpur | Member |
| 17. Prof. Dipteek Parmar, Head, Civil Engineering, HBTI Kanpur | Chairman |

At the outset the Head, Civil Engineering and Chairman, BoS on behalf of the CED, HBTI Kanpur extended a warm welcome to the members of the BOS. Thereafter, he apprised the members about the genesis for the BoS meeting at this point in time. Subsequently, the following items were considered for deliberations by the members of the BoS. The agenda wise decisions are also mentioned.

Agenda 6.1 Approval of the course structure for B.Tech. Program (in line with provisions of NEP 2020) to be implemented from the Academic Session 2022-23 along with the courses (Core, Department Elective & Open Elective).

Decision: The Head apprised the house about the genesis and details of several rounds of meeting held at the university level to arrive at a common format to be adopted by all departments of the university. The house deliberated extensively and finally approved the course structure with minor changes/suggestions. The final course structure is attached at Annexure 1.

R. Ganguly
22/10/22

J.P. Nayak
22/10/2022

P. Kavita
22/10/22

[Signature]

R. Priya
22/10/22

Shivani
22/10/22

Head
22/10/22

[Signature]
22/10/22
D. Parmar
Head, CED

Agenda 6.2 Approval of syllabus of Engineering Graphics & Introduction of Civil Engineering for the session 2022-23.

Decision: The Head apprised the house that these two courses are to start in B.Tech 1st year from the academic session 2022-23. The house deliberated extensively and suggested few more topics to be included in the syllabus of "Introduction to Civil Engineering". The syllabus of Engineering Graphics was also approved with few modifications. The final syllabus of these courses is attached at Annexure 2.

Agenda 6.3 Approval of various courses for "Minor Degree" in (a) Civil Engineering (b) Environmental Engineering (for students with Major in other branches of Engineering/Technology).

Decision: The committee unanimously approved the courses as proposed for the "Minor Degree" in Civil Engineering.

Agenda 6.4 Approval of External Examiners for M.Tech. Thesis evaluation for the session 2021-22 & 2022-23.

Decision: The committee unanimously approved the list of external examiners.

Agenda 6.5 Approval of External Examiners for B.Tech. (Theory & Practical) Examination for the Odd & Even Semester of the Academic Session 2022-23.

Decision: The committee unanimously approved the list of external examiners.

The meeting ended with thanks to the chair.

Rgonguly
22/10/22

J.P. Nigam
22/10/2022

G. S. Nigam

Amar

Pankaj
22/10/22

Priya
22/10/22

Shivani
22/10/22

Har
22/10/22

(Diptee Parmar)
Head, CED
Chairman, BoS

HARCOURT BULTER TECHNICAL UNIVERSITY KANPUR
SCHOOL OF ENGINEERING

B. Tech. Programme

Semester wise Course Structure (Applicable from Session 2022-2023 for new entrants)

Year I, Semester-I

S. No.	Course Type	Course Title	Subject Code*	Credits	Periods			Sessional Marks				ESE	Total Marks
					L	T	P	MSE	TA	Lab	Total		
1	BSC	Engineering Chemistry		4	3	0	2	15	20	15	50	50	100
2	ESC	Introduction to Computer Science & Engineering		4	3	1	0	30	20	-	50	50	100
3	ESC	Introduction to Electronics Engineering		4	3	1	0	30	20	-	50	50	100
4	ESC	Introduction to Civil Engineering		4	3	1	0	30	20	-	50	50	100
5	ESC	Introduction to Chemical Engineering & Chemical Technology		4	3	1	0	30	20	-	50	50	100
6	ESC	Workshop Practice		2	0	0	4	-	20	30	50	50	100
Total Credits: 22												600	

Year I, Semester-II

S. No.	Course Type	Course Title	Subject Code *	Credits	Periods			Sessional Marks				ESE	Total Marks
					L	T	P	MSE	TA	Lab	Total		
1	BSC	Engineering Physics		4	3	0	2	15	20	15	50	50	100
2	BSC	Engineering Mathematics-I		4	3	1	0	30	20	-	50	50	100
3	ESC	Introduction to Electrical Engineering		4	3	0	2	15	20	15	50	50	100
4	ESC	Introduction to Mechanical Engineering		4	3	1	0	30	20	-	50	50	100
5	HSMC	Professional Communication		4	2	1	2	15	20	15	50	50	100
6	ESC	Engineering Graphics		2	0	0	4	30	20	-	50	50	100
Total Credits: 22												600	

*To be allotted by Academic Section

Amr

J.P.Nguy
22/10/2022

Pavita
22/10/22

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22/10/22

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22/10/22

Shivani
22/10/22

Rganguy
(Rajiv Ganguy)
22/10/22

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22/10/22

HARCOURT BULTER TECHNICAL UNIVERSITY KANPUR

SCHOOL OF ENGINEERING

B. Tech. Programme

Year II, Semester- III

S. No.	Course Type	Course Title	Subject Code*	Credits	Periods			Sessional Marks				ESE	Total Marks
					L	T	P	MSE	TA	Lab	Total		
1	BSC	Engg. Math-II		4	3	1	0	30	20	-	50	50	100
2	ESC	Strength of Material		4	3	1	0	30	20	-	50	50	100
3	PCC	Fluid Mechanics		4	2	1	2	15	20	15	50	50	100
4	PCC	Surveying		5	3	1	2	15	20	15	50	50	100
5	PCC	Building Material and Construction		3	2	0	2	15	20	15	50	50	100
6	PCC	Engg. Geology		2	2	0	0	30	20	-	50	50	100
7	PCC	Engg. Hydrology		2	2	0	0	30	20	-	50	50	100
Total Credits: 24												700	

Year II, Semester- IV

S. No.	Course Type	Course Title	Subject Code *	Credits	Periods			Sessional Marks				ESE	Total Marks
					L	T	P	MSE	TA	Lab	Total		
1	BSC	Engg. Math III		4	3	1	0	30	20	-	50	50	100
2	ESC	HHM/C		4	2	1	2	15	20	15	50	50	100
3	PCC	SA-I		4	2	1	2	15	20	15	50	50	100
4	PCC	DCS-I		4	2	1	2	15	20	15	50	50	100
5	PCC	Environmental Engg - I		3	2	1	0	30	20	-	50	50	100
6	HSMC	Engg. Economics & Management		3	3	0	0	30	20	-	50	50	100
7	PCC	Estimation & Construction Management (ECM)		2	2	0	0	30	20	-	50	50	100
Total Credits: 24												700	

*To be allotted by Academic Section

J.P. Nigam 22/10/22

22/10/22

Pavita 22/10/22

Smar

22/10/22

Shivani 22/10/22

22/10/22

22-10-22

Brijya

Ranganulya 22/10/22
(Rajiv Ranganulya)

HARCOURT BULTER TECHNICAL UNIVERSITY KANPUR

SCHOOL OF ENGINEERING

B. Tech. Programme

Year III, Semester- V

S. No.	Course Type	Course Title	Subject Code*	Credits	Periods			Sessional Marks				ESE	Total Marks
					L	T	P	MSE	TA	Lab	Total		
1	PCC	Structural Analysis I		3	2	1	0	30	20	-	50	50	100
2	PCC	Design of Concrete Engineering-II		3	2	1	0	30	20	-	50	50	100
3	PCC	Geotechnical Engineering I		4	3	1	0	15	20	15	50	50	100
4	PCC	Transportation Engineering I		4	3	1	0	15	20	15	50	50	100
5	PCC	Environmental Engineering I		4	3	0	2	15	20	15	50	50	100
6	PCC	Computer Applications in Civil Engineering		2	1	0	2	15	20	15	50	50	100
7	OEC-I	As per Annexure-I.a		2	2	0	0	30	20	-	50	50	100
Total Credits: 22												700	

Year III, Semester- VI

S. No.	Course Type	Course Title	Subject Code *	Credits	Periods			Sessional Marks				ESE	Total Marks
					L	T	P	MSE	TA	Lab	Total		
1	PCC	DSS		3	2	1	0	30	20	-	50	50	100
2	PCC	Geo Tech-II		4	3	0	2	30	20	-	50	50	100
3	PCC	Transportation Engineering -II		4	3	0	2	30	20	-	50	50	100
4	PCC	Irrigation & Hydraulic Structure		3	3	0	0	30	20	-	50	50	100
5	PCC	Earthquake Resistant Structures		2	2	0	0	30	20	-	50	50	100
6	PEC-I	As per Annexure-I.b		4	3	1	0	30	20	-	50	50	100
7	HSMC	Entrepreneurship Development		2	2	0	0	30	20	-	50	50	100
Total Credits: 22												700	

*To be allotted by Academic Section

J.P. Nigam 22/10/2022

Kavita T 22/10/22

Yash 22/10/22

Sumar 22/10/22

Shivani 22/10/22

Shivani 22/10/22

Prinija 22/10/22

Ranguly (Rajiv Ganguly) 22/10/22

HARCOURT BULTER TECHNICAL UNIVERSITY KANPUR

SCHOOL OF ENGINEERING

B. Tech. Programme

Year IV, Semester- VII

S. No.	Course Type	Course Title	Subject Code*	Credits	Periods			Sessional Marks				ESE	Total Marks
					L	T	P	MSE	TA	Lab	Total		
1	PEC-II	As per Annexure-Ib		4	3	1	0	30	20	-	50	50	100
2	PEC-III	As per Annexure-Ib		3	3	1	0	30	20	-	50	50	100
3	PEC-IV	As per Annexure-Ib		3	3	1	0	30	20	-	50	50	100
4	Seminar	Seminar		2	0	0	4	-	-	-	50	50	100
5	Industrial Training	Industrial Training		2	0	0	4	-	-	-	50	50	100
6	Minor Project	B.Tech Minor Project		6	0	0	6	-	-	-	50	50	100
7	OEC-II	As per Annexure-Ia		2	2	0	0	30	20	-	50	50	100
Total Credits: 22												700	

Year IV, Semester- VIII

S. No.	Course Type	Course Title	Subject Code *	Credits	Periods			Sessional Marks				ESE	Total Marks
					L	T	P	MSE	TA	Lab	Total		
1	PEC-V	As per Annexure-Ib		4	3	1	0	30	20	-	50	50	100
2	OEC-III	As per Annexure-Ia		2	2	0	0	30	20	-	50	50	100
3	Project	B.Tech Project		16	0	0	16	-	-	-	100	100	200
Total Credits: 22												400	

*To be allotted by Academic Section

J.P. Nigam
22/10/22

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22-10-22

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22/10/22

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Shivani
22/10/22

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22/10/22

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Ranguly
22/10/22
(Rajiv Ganguly)

LIST OF OPEN ELECTIVES : Annexure I.a

LIST OF OPEN ELECTIVES	
1	OEC-I
	a. Human values
	b. Cyber Security
	c. Indian knowledge Tradition
	d. One course offered by each degree awarding departments- Environment & Ecology (Offered by Civil Engineering Department)
	e. One course offered by school of basic & Applied Sciences
	f. One course offered by school of Humanities & Social Sciences
2	OEC-II
	a. Soft Computing
	b. Artificial Intelligence
	c. 3-D Printing
	d. Logistics & Supply Chain Management
	e. One course offered by each degree awarding departments- Environmental Pollution & Management (Offered by Civil Engineering Department)
	f. One course offered by school of basic & Applied Sciences
	g. One course offered by school of Humanities & Social Sciences
3	OEC-III
	a. Robotics
	b. Data sciences
	c. Machine Learning
	d. Sustainable Development
	e. One course offered by each degree awarding departments- Disaster Management (Offered by Civil Engineering Department)
	f. One course offered by school of basic & Applied Sciences
	g. One course offered by school of Humanities & Social Sciences

Ravika 7
22/10/22
J.P. Nayak
22/10/22

Anwar

Yatna

Shivani
22/10/22

Pradeep
22/10/22

Muk
22/10/22

Prady

Aganguly
(Rajiv Ganguly)
22/10/22

List of Program Electives in Civil Engineering

<p>PEC-I (6th Semester)</p> <ul style="list-style-type: none"> • Design of Tanks and Reservoirs • Repair & Maintenance of Concrete Structures • Ground Improvement Technology • Environmental Impact Assessment • Advanced Concrete Technology • Industrial Waste Management • Traffic Engineering • Open Channel Flow 	<p>PEC-IV (7th Semester)</p> <ul style="list-style-type: none"> • Structural Fire Engineering • Earthquake Resistant Design of Foundations • Slope Stability Analysis and Design • Water Quality Modelling • Pavement Construction and Maintenance • Urban Hydrology • Highway Soil Mechanics • Environmental System Analysis
<p>PEC-II (7th Semester)</p> <ul style="list-style-type: none"> • Site Investigation & Foundation Design • Earthquake Resistant Design of Structures • Municipal Solid Waste Management • Transportation System & Planning • Bridge Engineering • Stochastic Hydrology • Advanced Steel Structures • Environmental Risk Assessment 	<p>PEC-V (8th Semester)</p> <ul style="list-style-type: none"> • Geo Environmental Engg. • Planning and Management of Buildings • Environmental Pollution & Control • Ground Water Flow & Pollution Modelling • Construction & Contract Management • Sustainable Transport System • Precast and Modular Construction Practices • Pre-stressed Concrete Design
<p>PEC-III (7th Semester)</p> <ul style="list-style-type: none"> • Structural Dynamics • Soil Dynamics • Remote Sensing and GIS • Industrial Waste Water Treatment • Advanced Hydrology • Introduction to Intelligent Transportation Systems • Solid Waste Engineering • Advanced Structural Analysis 	

Pavita.T
22/10/22

J. P. Nayak
22/10/2022

Samar

Shivani
22/10/22

Mohit
22/10/22

22/10/22

Ranganya
(Rajiv Ranganya)

INTRODUCTION TO CIVIL ENGINEERING

LTPC3104

Course Content:

Unit-1: Introduction

Civil Engineering: Overview and scope of Civil Engineering, Civil Engineering landmarks, Job opportunities in Civil Engineering

Fundamentals of Surveying: Introduction, Types of Surveying - Chain, Compass, levelling and contouring, Total Station, Introduction to Remote Sensing/ GIS/ GPS

Unit-2: Civil Engineering Materials

Building materials: Bricks, Stones, Cement, Aggregate, Concrete, RCC, Steel, Timber, Tiles, lime, paint.

Highway materials: bitumen, surkhi, sand, stone dust

Soil: Types of soil, classification of soil.

Unit-3: Environmental Engineering

Water and Wastewater Quality, Drinking Water Standards, Water infrastructure - Intake, Treatment plants, distribution system, and household plumbing.

Waste water infrastructure - household drainage system, sewerage system, Treatment Plant, and, disposal, effluent standards.

Introduction to Air Pollution, Air Quality Index, Air quality standards, Solid Waste Management- collection and segregation, Noise Pollution- standards

Unit-4: Transportation Engineering

Highway Engineering: Introduction, Model, elemental and functional classification of Transportation System, IRC classification of roads, Typical cross section of pavements, Control system.

Railway Engineering: Types of rails, Components of permanent way, stations

Airport- Components of airport

Introduction to Docks, Harbour, and Inland waterways

Unit-5: Civil Engineering Structures

Introduction to buildings: Elements- slab, beam, column, footing

Introduction to various Civil Engineering Structures - Bridges, Retaining Wall, Tanks and Reservoirs, Hydraulic Structures-Dams, Canals, Weirs, Barrage, Industrial Structures

Pavita 7
22/10/22
J.P. Nigam
22/10/2022
Amar
22/10/22
Shivani
22/10/22
Ranganuj
22/10/22
Sanya
22/10/22
(Rajiv Ranganuj)

ENGINEERING GRAPHICS

LTPC0042

Unit -I

Lettering and Dimensioning: Introduction, lettering practices, Rules of dimensioning – systems of dimensioning. Geometric Constructions: Freehand sketching, Conic Sections, Special Curves. Engineering Scales

Unit -II

Orthographic Projection

Projection of Points: First and Third Angle Projections; Projection of Points

Projection of Lines: Projection of straight lines (First angle projection only); Projection of lines inclined to one plane and both planes, true length and true inclinations.

Unit -III

Projection of solids: Classification of solids, Projection of solids in simple position, Projection of solids inclined to one plane.

Sections of Solids: Right regular solids and auxiliary views for the true shape of the sections.

Unit -IV

Development of Surfaces: Development of surfaces for various regular solids.

Isometric Projection: Isometric scales, Isometric projections of simple and combination of solids;

Perspective Projection: Orthographic representation of perspective views – Plane figures and simple solids.

Unit -V

Conversion of pictorial view into orthographic Projection.

Introduction to various software of computer aided design

Introduction to Auto CAD- commands, function keys, views

Pavika.7
22/10/22
J.P. Nayak

Yadav

Ambar

D.

Shivani
22/10/22

Shivani
22/10/22

Indu
22-10-22

Mani
22/10/22

Ranguly
(Rajiv Ranguly)
22/10/22

List of Courses for "Minor" in Civil Engineering

The students of 4th year shall have to earn a minimum of 20 credits from the following list to be eligible for "Minor" in Civil Engineering

S.no	Course Name	Credits
1	Surveying I	5
2	Fluid Mechanics	4
3	Building Materials and Construction	3
4	Structural Analysis I	4
5	Design of Concrete Structures	4
6	Geotechnical Engineering I	4
7	Environment Engineering I	3
8	Transportation Engineering I	4
9	Irrigation & Hydraulic Structure	4
10	Estimation and Construction Management	2

List of Courses for "Minor" in Environment Engineering

The students of 4th year shall have to earn a minimum of 20 credits from the following list to be eligible for "Minor" in Environment Engineering. Out of these, a minimum of 15 credits should be earned from the core courses (S.No. 1 to 4 as per list below) which are compulsory. The remaining credits could be earned from the list of electives given in table below /or other program electives offered by the Civil department / or from various MOOCS platforms such as NPTEL/SWAYAM etc.

S.no	Course Name	Course Type	Credits
1	Environment Engineering I	Core	3
2	Environment Engineering II	Core	4
3	Hydraulics & Hydraulic Machines	Core	4
4	Irrigation & Hydraulic Design	Core	4
5	Environment Pollution Control	Elective	3
6	Environmental Impact Assessment	Elective	3
7	Solid Waste Engineering	Elective	3
8	Industrial Waste Management	Elective	3

Pavita-7
22/10/22

J-P-Nguy
22/10/2022
4801 42

Mud
22/10/22

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22/10/22

Shivani
22/10/22

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22.10.22

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Ranguly
(Rajiv Ranguly) 22/10/22