Course Structureof B.Tech. in Ceramic Technology

(Applicable from the academic session 2024-2025)

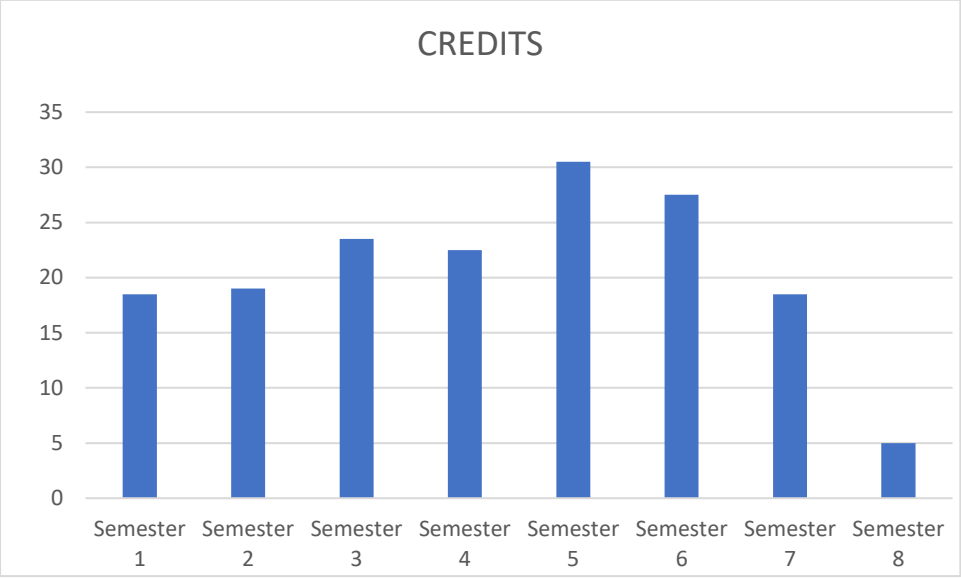
(Department of Ceramic Technology)

Government College of Engineering & Ceramic Technology

73, A.C Banerjee Lane

Kolkata-700010

Distribution of Credit points (semester wise)



SEMESTER	CREDITS
Semester 1	18.5
Semester 2	20
Semester 3	23.5
Semester 4	22.5
Semester 5	30.5
Semester 6	27.5
Semester 7	18.5
Semester 8	5
Total Credits	**166**

CREDIT POINTS OF FIRST YEAR = 38.5

1st Semester B. Tech Ceramic Technology							
Sl. No.	Type of course	Course Code	Course Title	Hours per week			Credits
				Lecture	Tutorial	Practical	
Theory							
1	Basic Science course	BS(CT) 101	Mathematics – I	3	0	0	3
2	Basic Science course	BS(CT) 102	Chemistry	3	0	0	3
3	Basic Science course	ES(CT) 101	Programming for Problem solving	3	0	0	3
4	Engineering Science Course	ES(CT) 102	Electronics	3	0	0	3
Sessional/Practical							
1	Basic Science course	BSL(CT) 103	Chemistry Lab	0	0	3	1.5
2	Engineering Science Course	ESL(CT) 103	Programming for Problem solving Lab	0	0	2	1
3	Engineering Science Course	ESL(CT) 104	Engineering Graphics & Design	1	0	2	2
4	Engineering Science Course	ESL(CT) 105	Electronics Lab	0	0	2	1
5	Humanities & Social Sciences including Management	HSL(CT) 101	Design & Thinking Lab	0	0	2	1
				Total credits			**18.5**

Th. = 04 Pr. = 05 BS= 9 + 1.5 ES= 3 + 4 HS= 1

2nd Semester B. Tech Ceramic Technology							
Sl. No.	Type of course	Course Code	Course Title	Hours per week			Credits
				Lecture	Tutorial	Practical	
Theory							
1	Basic Science course	BS(CT) 204	Mathematics-II	3	0	0	3
2	Basic Science course	BS(CT) 205	Physics	3	0	0	3
3	Engineering Science Course	ES(CT) 206	Basic Electrical Engineering	3	0	0	3
4.	Engineering Science Course	ES(CT) 207	Basic Mechanical Engineering	3	0	0	3
5.	Humanities & Social Sciences including Management	HS(CT) 202	English	2	0	0	2
Sessional/Practical							
1	Basic Science course	BSL(CT) 206	Physics Lab	0	0	2	1
2	Engineering Science Course	ESL(CT) 208	Basic Electrical Engineering Lab	0	0	2	1
3	Engineering Science Course	ESL(CT) 209	Workshop / Manufacturing Practices	1	0	2	2
4.	Humanities & Social Sciences including Management	HSL(CT) 203	English Communication Lab	0	0	2	1
5.	Community Service/ Extra-Curricular Activity	ECA(CT) 201	Extra-Curricular Activity (NSS)	0	0	0	1
				Total credits			**20**

In house Soft Skill development (1 to 2 weeks training in summer to be evaluated in 3rd Semester)

Th. = 05 Pr. = 04 BS= 6 + 1 ES= 6 + 3 HS= 2 + 1

3rdSemester B. Tech Ceramic Technology							
Sl. No.	Type of course	Course Code	Course Title	Hours per week			Credits
				Lecture	Tutorial	Practical	
Theory							
1.	Basic Science Course	BS(CT) 307	Engineering Mathematics	3	0	0	3
2.	Basic Science Course	BS(CT) 308	Environmental Sciences	2	0	0	2
3.	Professional Core Course	PC(CT) 301	Ceramic Raw Materials	4	0	0	4
4.	Professional Core Course	PC(CT) 302	Unit Operation I	3	0	0	3
5.	Professional Core Course	PC(CT) 303	Energy Resources & Furnaces	4	0	0	4
6.	Engineering Science Course	ES(CT) 310	Engineering Thermodynamics	3	0	0	3
Sessional/Practical							
1.	Professional Core Course	PCL(CT) 304	Powder Preparation & Chemical Analysis of Ceramic Raw Materials and Products Lab	0	0	3	1.5
2.	Professional Core Course	PCL(CT) 305	Fuels Testing Lab	0	0	2	1
3.	Basic Science Course	BSL(CT)309	Numerical Methods Lab	0	0	2	1
4.	Soft Skill Development Training	SD (CT) 301	* Soft Skill Development (Intra-institutional)	0	0	0	1
				Total credits			**23.5**

Th. = 06 Pr. = 03 BS= 5 + 1 ES= 3 PCC= 11 + 2.5 HS= 0

Sessional (training) = 1

4th Semester B. Tech Ceramic Technology							
Sl. No.	Type of course	Course Code	Course Title	Hours per week			Credits
				Lecture	Tutorial	Practical	
Theory							
1.	Basic Science Course	BS(CT) 410	Biology for Engineers	3	0	0	3
2.	Professional Core Course	PC(CT) 406	Unit Operation II	3	0	0	3
3.	Engineering Science Course	ES(CT) 411	Engineering Materials Science I	3	0	0	3
4.	Professional Core Course	PC(CT) 407	Processing of Ceramics	3	0	0	3
5.	Engineering Science Course	ES(CT) 412	Fundamentals of Metallurgy	3	0	0	3
6.	Professional Elective Course	PE(CT) 401	Process Calculations(A)/ Introduction to Industrial Ceramics (B)	3	0	0	3
Sessional/Practical							
1.	Professional Core Course	PCL(CT)408	Physical Testing & Instrumental Methods of Analysis of Raw Materials & Products Lab	0	0	3	1.5
2.	Professional Core Course	PCL(CT) 409	Unit Operation Lab	0	0	2	1
3.	Project	PROJ(CT) 401	Topic Choice and Literature Review	0	0	4	2
				Total credits			**22.5**

Skill development (2 to 3 weeks training in summer to be evaluated in 5th Semester)

Th. = 06 Pr. = 03 BS= 3 + 1 ES= 3 PCC= 6 + 2.5 PEC = 3 HS= 0

Sessional (project) = 2

5th Semester B. Tech Ceramic Technology							
Sl. No.	Type of course	Course Code	Course Title	Hours per week			Credits
				Lecture	Tutorial	Practical	
Theory							
1.	Professional Core Course	PC(CT) 510	Refractories	3	0	0	3
2.	Professional Core Course	PC(CT) 511	Glass Science &Technology	3	0	0	3
3.	Professional Core Course	PC(CT) 512	Whitewares	3	0	0	3
4.	Professional Elective Course	PE(CT) 502	Bio Ceramics (A) / Nano Ceramics (B)	3	0	0	3
5.	Open Elective Course	OE(CT) 501	DBMS (A) / Object Oriented Programming (B) / Operation Research (C)	3	0	0	3
6.	Humanities & Social Sciences including Management Courses	HS(CT) 504	Economics & Statistics	4	0	0	4
Sessional/Practical							
1.	Professional Core Course	PCL(CT) 513	Refractories Lab	0	0	3	1.5
2.	Professional Core Course	PCL (CT) 514	Glass Lab	0	0	3	1.5
3.	Professional Core Course	PCL(CT) 515	Whitewares Lab	0	0	3	1.5
4.	Open Elective Course	OEL(CT)502	DBMS Lab (A) / Object Oriented Programming Lab (B) / OR Lab (C)	0	0	2	1
5.	Project	PROJ(CT) 502	Objective, Plan of work and Experimental work-I	0	0	10	5
6.	Skill Development Training	SD (CT) 502	Summer Training 2 (Inter-institutional / Industrial)	0	0	0	1
				Total credits			**30.5**

Th. = 06 Pr. = 04 BS= 0 OEC= 3 +1 PCC= 12 + 4.5 PEC = 3 HS= 4

Sessional (project + training) = 5+1

6th Semester B. Tech Ceramic Technology							
Sl. No.	Type of course	Course Code	Course Title	Hours per week			Credits
				Lecture	Tutorial	Practical	
Theory							
1.	Professional Core Course	PC(CT) 616	Cement, Concrete & Monolithic Refractories	4	0	0	4
2.	Professional Core Course	ES(CT) 613	Engineering Materials Science II	3	0	0	3
3.	Professional Core Course	PC(CT) 617	Advanced Ceramics	3	0	0	3
4.	Professional Elective Course	PE(CT) 603	Refractories for Ferrous Industries (A) / Refractories for Non -ferrous & Other Industries (B)	3	0	0	3
5.	Open Elective Course	OE(CT) 603	Total Quality Management (A) / Environment Engg. & Management (B)	3	0	0	3
6.	Professional Core Course	PC(CT) 618	Instrumentation & Process Control	4	0	0	4
Sessional/Practical							
1.	Professional Core Course	PCL(CT) 619	Cement & Concrete Lab	0	0	3	1.5
2.	Project	PROJ(CT) 603	Experimental stage-II, Result and Discussion	0	0	10	5
3.	Humanities & Social Sciences including Management Courses	HSL(CT) 605	Soft Skill 1	0	0	2	1
				Total credits			**27.5**

Th. = 07 Pr. = 02 BS= 0 OEC= 3 PCC= 14 + 1.5 PEC = 3 HS=1

Sessional (project) = 5

Students would undergo 8 weeks' Industrial training/internship after 6th Semester to be evaluated in 7th Semester

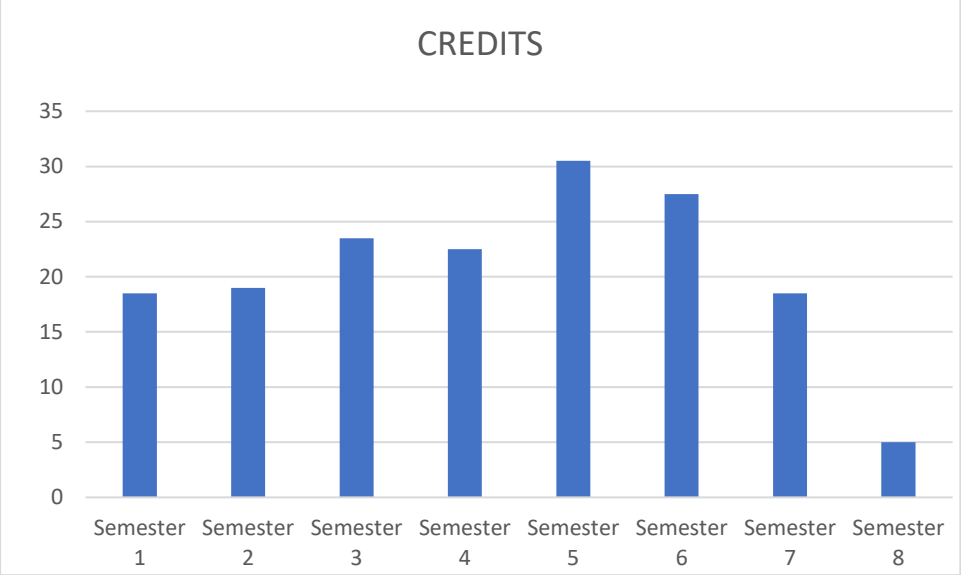
7thSemester B. Tech Ceramic Technology							
Sl. No.	Type of course	Course Code	Course Title	Hours per week			Credits
				Lecture	Tutorial	Practical	
Theory							
1.	Professional Core Course	PC(CT) 720	Computational Materials Science	3	0	0	3
2.	Professional Elective Course	PE(CT) 704	Non-oxide Ceramics (A)/ Composites (B)	3	0	0	3
3.	Open Elective Course	OE(CT) 704	Artificial Intelligence & Robotics (A) / Internet of Things (B) / Machine Learning (C)	3	0	0	3
4.	Humanities & Social Sciences including Management Courses	HS(CT) 706	Fundamentals of Business Management	3	0	0	3
5.	Humanities & Social Sciences including Management Courses	HSL(CT) 707	Indian Constitution	2	0	0	2
Sessional/Practical							
1.	Humanities & Social Sciences including Management Courses	HSL(CT) 708	Soft Skill 2	0	0	2	1
2.	Industrial Training	INDTRG (CT) 701	Training Proficiency	-	-	-	2
3.	Professional Elective Course	PEL(CT) 705	Ceramic Plant & Equipment Design (A)/ Furnace & Kilns Design (B)	0	0	3	1.5
				Total credits			**18.5**

Th. = 05 Pr. = 02 BS= 0 OEC= 3 PCC= 3 + 1.5 PEC = 3 HS= 5+1

Sessional (Industrial training) = 2

8th Semester B. Tech Ceramic Technology							
Sl. No.	Type of course	Course Code	Course Title	Hours per week			Credits
				Lecture	Tutorial	Practical	
Sessional/Practical							
1.	Internship & Finishing School	INT (CT) 801	Industrial Project & Hard Skill	-	-	-	3
2.	Comprehensive Viva Voce	PCL(CT) 821	Comprehensive Viva Voce	-	-	-	2
				Total credits			**5**

Distribution of Credit points (semester wise)



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