1. SALIENT FEATURES OF THE DIPLOMA PROGRAMME IN CERAMIC ENGINEERING

1.	Name of the Programme	:	Diploma Programme in Ceramic Engineering
2.	Duration of the Programme	:	Three Years
3.	Entry Qualifications	:	Matriculation or equivalent as prescribed by AICTE
4.	Admission Criteria	:	Entrance Examination/Test
5	Intake	:	40
6	Pattern of the Programme	:	Semester Pattern
7.	Ratio between Theory & Practical	:	50 : 50

2. EMPLOYMENT OPPORTUNITIES

Employment opportunities for diploma holder in Ceramic Engineering are visualized in following industries at various levels/positions.

i) White Ware Industry
   (a) Sanitary ware
   (b) Tiles
   (c) Crockery

ii) Refractories

iii) Glass Industry

iv) Cement Industry

v) Modern Ceramic industries, cosmoferrites, modern insulators, BHEL

In various capacities as Production Supervisor, Ceramic Engineer, Ceramist, Glass technologist, Quality Control Supervisor, Inspection Supervisor, In plant Laboratory Supervisor, R&D Supervisor, Sales and Marketing Officer.

(v) Self employed in setting up small units

3. COMPETENCY PROFILE

Keeping in view the employment opportunities of diploma holders in ceramic engineering, the course is aimed at developing following knowledge and skills in the students:

1. Basic understanding of concepts and principles related to applied sciences like physics, chemistry and mathematics.
2. Development of communication and interpersonal skills for effective functioning in the world of work.
3. Understanding of basic concepts and principles of electrical and electronics engineering so as to enable the students to apply the knowledge of these principles to the field of ceramic engineering.
4. Ability to classify and understand the properties of refractories, white wares, glass and cement.
5. Ability to prepare, read and interpret engineering drawings.
6. Knowledge of physical, chemical and thermal properties of raw materials, additives and finished products.
7. Understanding of various manufacturing processes and machinery used for ceramics production.
8. Ability to plan, schedule, organise, direct, control and coordinate men, materials and machines for the production of ceramic products.
9. Ability to select appropriate raw materials, processes, machines and make cost calculations for production of ceramics.
10. Proficiency in use of computers.
11. Basic manual and machining skills as an aid to function effectively in the process industry.
12. Ability to formulate suitable compounds so as to make ceramic products of desired properties.
13. Understanding of various aspects of human and industrial relations, leadership, motivation, human resource development, industrial legislation, safety and environment at work places along with knowledge of marketing and sales promotion of ceramic products.
14. Development of generic skills of thinking and problem solving, communication, attitudes and value system for effective functioning in process industry.
15. Development of good personality in order to have effective communication and business ethics.

4. DERIVING CURRICULUM AREAS FROM COMPETENCY PROFILE

The following curriculum areas have been derived from course objectives:

Sr. No.	Curriculum Objectives	Curriculum Areas/Subjects
1.	Basic understanding of concepts and principles related to applied sciences like physics, chemistry and mathematics.	- Applied Physics - Applied Chemistry - Applied Mathematics
2.	Development of communication and interpersonal skills for effective functioning in the world of work.	- Communication skills
3.	Understanding of basic concepts and principles of electrical and electronics engineering so as to enable the students to apply the knowledge of these principles to the field of ceramic engineering.	- Basics of Electrical and Electronics Engineering
4.	Ability to classify and understand the properties of refractories, white wares, glass and cement.	- Introduction to Ceramic Engineering
5.	Ability to prepare, read and interpret engineering drawings.	- Engineering Drawing - General workshop Practice
6.	Knowledge of physical, chemical and thermal properties of raw materials, additives and finished products.	- Geology - Ceramic Raw materials - Material Science - Modern Ceramics
7.	Understanding of various manufacturing processes and machinery used for ceramics production.	- Unit operations in Ceramics - Engineering Thermodynamics - Basics of Electrical and Electronics Engineering - Principles of Metallurgy
8.	Ability to plan, schedule, organise, direct, control and coordinate men, materials and machines for the production of ceramic products.	- Ceramic white ware technology - Ceramic Refractory Technology - Glass Technology - Cement Technology
9.	Ability to select appropriate raw materials, processes, machines and make cost calculations for production of ceramics.	- Fuels and Furnaces - Ceramic machineries - Principles of metallurgy - Ceramic white ware Technology - Glass Technology - Cement Technology

10.	Proficiency in use of computers.	- Basics of Information Technology - Computer Applications in Ceramic Industry
11.	Basic manual and machining skills as an aid to function effectively in the process industry.	- General workshop Practice
12.	Ability to formulate suitable compounds so as to make ceramic products of desired properties.	- Ceramic material science - Modern Ceramics
13.	Understanding of various aspects of human and industrial relations, leadership, motivation, human resource development, industrial legislation, safety and environment at work places along with knowledge of marketing and sales promotion of ceramic products.	- Industrial Management - Industrial Training
14.	Development of generic skills of thinking and problem solving, communication, attitudes and value system for effective functioning in process industry.	- Industrial visits - Project work
15.	Development of good personality in order to have effective communication and business ethics.	- Student centered activity

5. ABSTRACT OF CURRICULUM AREAS/SUBJECTS

a) Basic Sciences and Humanities

1 Communication Skills
2 Basics of Information Technology
3 Industrial Management

b) Applied Sciences

4 Applied Mathematics
5 Applied Physics
6 Applied Chemistry

c) Basic Courses in Engineering/Technology

7. Engineering Drawing
8. General Workshop practice
9. Basics of Electrical and Electronics Engineering

d) Applied Courses in Engineering/Technology

10. Introduction to Ceramic Engineering
11. Geology
12. Material Science
13. Unit operations in Ceramics
14. Fuel and Furnaces
15. Ceramic Machineries
16. Ceramic Raw Materials
17. Cement Technology
18. Principles of Metallurgy
19. Engineering Thermodynamics
20. Computer Applications in Ceramic Industry
21. Ceramic Whiteware Technology
22. Ceramic Refractory Technology
23. Glass Technology
24. Modern Ceramics
25. Minor Project
26. Major Project

6. HORIZONTAL AND VERTICAL ORGANISATION OF THE SUBJECTS

Sr. No.	Subjects	Distribution in Hours in Various Semesters					
		I	II	III	IV	V	VI
1.	Communication Skills	5	5	-	-	-	-
2.	Applied Mathematic	5	5	-	-	-	-
3.	Applied Physics	6	-	-	-	-	-
4.	Applied Chemistry	4	4	-	-	-	-
5.	Basics of Information Technology	4	-	-	-	-	-
6.	Engineering Drawing	6	-	-	-	-	-
7.	General Workshop Practice	6	6	-	-	-	-
8.	Basics of Electrical and Electronics Engineering	-	5	-	-	-	-
9.	Geology	-	6	-	-	-	-
10.	Introduction to Ceramic Engineering	-	3	-	-	-	-
11.	Material Science	-	-	4	-	-	-
12.	Unit Operation in Ceramics	-	-	7	-	-	-
13.	Principles of Metallurgy	-	-	3	-	-	-
14.	Engineering Thermodynamics	-	-	4	-	-	-
15.	Fuel and Furnaces	-	-	7	-	-	-
16.	Ceramic Raw Materials	-	-	3	-	-	-
17.	Cement Technology	-	-	8	-	-	-
18.	Ceramic Machineries	-	-	-	5	-	-
19.	Computer Applications in Ceramic Industry	-	-	-	4	-	-
20.	Ceramic Whiteware Technology -	-	-	-	9	9	-
21.	Ceramic Refractory Technology	-	-	-	9	9	-
22.	Glass Technology	-	-	-	9	9	-
23.	Industrial Management	-	-	-	-	3	-
24.	Modern Ceramics	-	-	-	-	4	-
25.	Minor Project Work	-	-	-	-	-	15
26.	Major Project Work	-	-	-	-	-	25
27.	Student Centred Activities	4	6	4	4	6	-
	Total	**40**	**40**	**40**	**40**	**40**	**40**