

## Lesson Plan

Name of Faculty : NIRAJ KUMAR SINGH  
 Discipline : CEAMIC ENGINEERING  
 Semester : 5th  
 Subject : PROFESSIONAL PRACTICE  
 Lesson Plan Duration : 15 WEEKS

Work Load ( Lecture /Practical ) per week in hours : Lecture : 0 Practical 6

<b>Practical</b>		
<b>Week</b>	<b>Practical Day</b>	<b>Topic ( Including assignment/test )</b>
1	1	<b>Unit 1- Sampling, Lot size</b> Importance of sampling, Different Sampling Techniques and Their demonstration (online/offline) for tile industry. For this IS standards can be used.
1	2	<i>Sampling, Lot size</i> : Importance of sampling, Different Sampling Techniques and Their demonstration (online/offline) for tile industry. For this IS standards can be used.
2	3	<b>Assignment of chapter 1 Sampling of lots in tile industry by different techniques</b>
2	4	<b>Unit 2 - Information Search and Data collection:</b> Search the information about any one topic suggested below or any other topic and make hand written report of 2 to 5 pages. This can be done through manufacturer's catalogue, websites, magazines; books etc. Following topics are suggested: 1. Advanced Refractories 2. Cermets 3. Whisker Ceramics 4. Piezo electric sensors 5. Catalytic convertors 6. Bio-implants 7. Dental implants. 8. Composite materials 9. Nano materials 10. Ceramic coatings in aeronautics, turbine blades. 11. Ceramic applications in nuclear reactors. 12. Advanced applications of Glass-Ceramics. 13. Photo chromatic Glasses 14. Powder Coatings 15. Advances in Slip Casting. 16. Ceramic Injection Moulding 17. Impact of ceramic industry on environmental pollution. 18. Importance of waste disposal in ceramic industries 19. Utilisation of Alternative energy sources in ceramics. 20. Ceramic Filters 21. Ceramics applications in Aeronautics/ Automobiles/ Electrical/ Electronics etc. 22. Ceramics applications in temperature sensing. 23. Advances in ceramic insulations. 24. Manufacturing of wash basins. 25. Ceramic Abrasives. 26. Maintenance procedure for laboratory model furnace. 27. Ceramic Cutting tools 28. Plant maintenance. 29. Industrial safety 30. Fire fighting 31. Industrial Effluent treatment 32. Low cost automation.
3	5	<b>Unit 2 - Information Search and Data collection:</b> Search the information about any one topic suggested below or any other topic and make hand written report of 2 to 5 pages. This can be done through manufacturer's catalogue, websites, magazines; books etc. Following topics are suggested: 1. Advanced Refractories 2. Cermets 3. Whisker Ceramics 4. Piezo electric sensors 5. Catalytic convertors 6. Bio-implants 7. Dental implants. 8. Composite materials 9. Nano materials 10. Ceramic coatings in aeronautics, turbine blades. 11. Ceramic applications in nuclear reactors. 12. Advanced applications of Glass-Ceramics. 13. Photo chromatic Glasses 14. Powder Coatings 15. Advances in Slip Casting. 16. Ceramic Injection Moulding 17. Impact of ceramic industry on environmental pollution. 18. Importance of waste disposal in ceramic industries 19. Utilisation of Alternative energy sources in ceramics. 20. Ceramic Filters 21. Ceramics applications in Aeronautics/ Automobiles/ Electrical/ Electronics etc. 22. Ceramics applications in temperature sensing. 23. Advances in ceramic insulations. 24. Manufacturing of wash basins. 25. Ceramic Abrasives. 26. Maintenance procedure for laboratory model furnace. 27. Ceramic Cutting tools 28. Plant maintenance. 29. Industrial safety 30. Fire fighting 31. Industrial Effluent treatment 32. Low cost automation.
3	6	<b>Assignment of chapter 2 - Preparation of report from collected data</b>
4	7	<b>3. Group Discussion:</b> <i>Group discussions:</i> Meaning and Importance of Group

		Discussion,
4	8	Types of Group Discussions, Format of a Group Discussion, tips to crack Group discussion.
5	9	<b>Sessional test 1 as per HSBTE academic calendar</b>
5	10	<p><i>Methodology for conducting Group discussion</i> 1. The teacher will allot a topic for a group of six students. 2. The teacher or any student should give an introductory talk on ways and rules to carry out group discussion 3. Teacher and other students will act as observing members and try to evaluate as per guidelines and will provide feedback at the end of GD. 4. The teacher should fix up the time duration for initiating and conducting the activity. Some of the suggested topics are –</p> <ul style="list-style-type: none"> <li>i) Sports</li> <li>ii) Current news items</li> <li>iii) Discipline and House Keeping</li> <li>iv) Current topics related to ceramic engineering</li> <li>v) Polythene bags must be banned!</li> <li>vi) Do we really need smart cities?</li> <li>vii) E-Books or Printed books – what's your choice?</li> <li>viii) Globalization and its impact on Indian Culture.</li> <li>ix) Global warming is caused more by developed countries</li> <li>x) Reservation for women would help the society.</li> <li>xi) Online vs off line education</li> </ul>
6	11	<p><i>Methodology for conducting Group discussion</i> 1. The teacher will allot a topic for a group of six students. 2. The teacher or any student should give an introductory talk on ways and rules to carry out group discussion 3. Teacher and other students will act as observing members and try to evaluate as per guidelines and will provide feedback at the end of GD. 4. The teacher should fix up the time duration for initiating and conducting the activity. Some of the suggested topics are –</p> <ul style="list-style-type: none"> <li>i) Sports</li> <li>ii) Current news items</li> <li>iii) Discipline and House Keeping</li> <li>iv) Current topics related to ceramic engineering</li> <li>v) Polythene bags must be banned!</li> <li>vi) Do we really need smart cities?</li> <li>vii) E-Books or Printed books – what's your choice?</li> <li>viii) Globalization and its impact on Indian Culture.</li> <li>ix) Global warming is caused more by developed countries</li> <li>x) Reservation for women would help the society.</li> <li>xi) Online vs off line education</li> </ul>
6	12	<b>Assignment of Chapter 3 Conduct of group discussion sessions</b>
7	13	<p><b>4. Student Activities (Team Work):</b> The students in a group of 3 to 4 will perform any one of the following activities (others similar activities may be considered Activity):</p> <ul style="list-style-type: none"> <li>i) Make list of IS Testing standards for whiteware /refractories/Glass</li> <li>ii) Collecting information from Market: Compare Nomenclatures and specifications of any ceramic products.</li> <li>iii) Specifications of Lubricants.</li> </ul>
7	14	<p><b>4. Student Activities (Team Work):</b> The students in a group of 3 to 4 will perform any one of the following activities (others similar activities may be considered Activity):</p> <ul style="list-style-type: none"> <li>i) Make list of IS Testing standards for whiteware /refractories/Glass</li> <li>ii) Collecting information from Market: Compare Nomenclatures and specifications of any ceramic products.</li> <li>iii) Specifications of Lubricants.</li> </ul>
8	15	<b>Assignment of chapter 4 Report preparation by team from collected information</b>
8	16	<i>Lecture on any one topic</i> on concept of Brain storming, quality circles, ISO, SPC, 5S, kaizen etc. General problem solving process ( Identify and clarify the problem, information gathering related to problem, Evaluate the evidence, Consider alternative solution and their implications, Choose and implement best alternative, Review )
9	17	<i>Problem solving techniques:</i> Trial and error, Brainstorming, Lateral ( Out of Box ) Thinking.
9	18	<i>Problem solving techniques:</i> Trial and error, Brainstorming, Lateral ( Out of Box ) Thinking.
10	19	<b>Assignment of chapter 5</b>
10	20	<b>Sessional test 2 as per HSBTE academic calendar</b>
11	21	<b>6. Self-Management Skills:</b> Lecture on any one topic like stress management, Time

		management, Developing Self-Awareness with JOHARI Window, Self-examination.
11	22	<b>Assignment of chapter 6 Self management skill</b>
12	23	<b>7. Mock Interview:</b> Preparation for interviews, Types of Interviews,
12	24	pproach for Facing an Interview, tips to crack Interview.
13	25	<b>Assignment of chapter 7 conduct mock interview.</b>
13	26	<b>8. Career Skills:</b> Introduction and significance of Résumé and Related Terms, Difference between a CV, Résumé, and Biodata,
14	27	Essential Components and format of a Good Résumé.
14	28	<b>Assignment of chapter 8 Resume, CV and Biodata writing</b>
15	29	<b>3<sup>rd</sup> sessional Test as per hsbte academic calendar</b>
15	30	<b>Revision &amp; question answer session</b>