



## **UTKALMANI GOPABANDHU INSTITUTE OF ENGINEERING, ROURKELA**

### **LESSON PLAN**

**SESSION: 2022 - 2023**

**DEPARTMENT OF RAW MATERIALS FOR CERAMIC MAKING**

**.SUBJECT CODE: TH-4**

**NAME OF THE SUBJECT: RAW MATERIALS FOR CERAMIC MAKING**

**BRANCH: CERAMIC TECHNOLOGY**

**SEMESTER: DIPLOMA 3<sup>RD</sup> SEM**

**NUMBER OF CLASS ALLOTTED PER WEEK: 4**

**TOTAL PERIODS ALLOTTED TO THE SUBJECT ACCORDING TO STEVT: 60**

**NAME OF THE FACULTY : RAMESH CHANDRA PRUSTY**

<b>Week/Date</b>	<b>Lecture</b>	<b>Topic to be covered</b>	<b>Remarks</b>
1 <sup>st</sup> week 15/09/2022 To 17/09/2022	1 <sup>st</sup>	1.1 Various type of rock and their use as ceramic raw material.	
	2 <sup>nd</sup>	1.2 Various types of minerals & their mode of formation by weathering.	
	3 <sup>rd</sup>	1.3 Properties of minerals.	
2 <sup>nd</sup> week 19/09/2022 To 24/09/2022	1 <sup>st</sup>	1.4 Economic minerals and their importance	
	2 <sup>nd</sup>	2.1 Definition, classification of clay. raw material used for white ware making.	

	3 <sup>rd</sup>	2.2 Various type of clay for ceramic use.	
	4 <sup>th</sup>	2.3 Formation of clay.	
3 <sup>rd</sup> week 26/09/31 To 01/10/2022	1 <sup>st</sup>	2.4 Properties of clay.	
	2 <sup>nd</sup>	2.5 Clay minerals	
4 <sup>th</sup> week 03/10/22 TO 08/10/22	1 <sup>st</sup>	2.6 Effect of heat on clay.	
	2 <sup>nd</sup>	3.1 Major ceramic raw materials.	
5 <sup>th</sup> week 10/10/22 To 15/10/22	1 <sup>st</sup>	3.2 List of minor ceramic raw materials.	
	2 <sup>nd</sup>	3.3 Silica bearing mineral & their properties & uses	
	3 <sup>rd</sup>	(Quartz & Quartzite, Ganister, glass sand) .	
	4 <sup>th</sup>	3.4 Alumina bearing materials, their properties & uses.	
6 <sup>th</sup> week 17/10/22 To 22/10/22	1 <sup>st</sup>	1-Bauxite & other hydrated alumina naturally available	
	2 <sup>nd</sup>	2-Various type of prepared alumina.	
	3 <sup>rd</sup>	3.5 Anhydride alumina silicate mineral & their properties & uses .	
	4 <sup>th</sup>	3.6 Lime and magnesia bearing minerals for ceramic uses.	
7 <sup>th</sup> week 24/10/22 To 29/10/22	1 <sup>st</sup>	(Limestone, Dolomite, Magnetite, Calcite, Gypsum, Talc ,Forsterite & Olivine).	
	2 <sup>nd</sup>	3.7 Alkali bearing minerals, their properties & uses	
8 <sup>th</sup> week 31/10/22 TO 05/11/22	1 <sup>ST</sup>	- (Potash feldshpar, Soda feldspar).	
	2 <sup>ND</sup>	3.8 Fluorine bearing minerals	
	3 <sup>RD</sup>	(Cryolit , Fluorite)	
9 <sup>th</sup> week 07/11/22	1 <sup>ST</sup>	3.9 Boron minerals for ceramic use Borax and boron compound	

TO 12/11/22	2 <sup>ND</sup>	3.10 Graphite and carbon, zircon & zirconia	
	3 <sup>RD</sup>	3.11 Raw material used for ceramic making.	
10 <sup>th</sup> week 14/11/22 TO 26/11/22	1 <sup>st</sup>	3.12 Raw materials for glass and enamel industry.	
	2 <sup>nd</sup>	3.13 Raw material for White ware and special ceramic.	
	3 <sup>rd</sup>	4.1 Availability of ceramic raw materials in India.	
11 <sup>th</sup> week 28/11/22 TO 03/12/22	1 <sup>ST</sup>	4.2 Availability various ceramic raw materials in Odisha.	
	2 <sup>nd</sup>	4.3 Ceramic raw material imported from other countries.	
12 <sup>th</sup> week 05/12/22 TO 23/12/22	1 <sup>ST</sup>	5.1 Beneficiation china clay .	
	2 <sup>ND</sup>	5.2 Beneficiations non plastic ceramic raw material.	
	3 <sup>RD</sup>	5.3 Use of Fly ash and blast furnace slag	
13 <sup>th</sup> week 02/01/23 TO 07/01/23	1 <sup>ST</sup>	5.4 Use of red mud , phosphogypsum	
	2 <sup>ND</sup>	use of rice husk ash in ceramic making	
	3 <sup>RD</sup>	6.1 Various types of binders used in ceramic making.	
	4 <sup>TH</sup>	6.2 Various types of additives used in refractory making .	
14 <sup>th</sup> week 09/01/23 TO 14/01/23	1 <sup>ST</sup>	6.3 Chemical compounds used in ceramic making.	
	2 <sup>ND</sup>	model question and answer as per syllabus	
	3 <sup>RD</sup>	class tests	
	4 <sup>TH</sup>	class tests	
15 <sup>th</sup> week 16/01/23 TO 17/01/23	1 <sup>ST</sup>	doubt clearing class	
	2 <sup>ND</sup>	doubt clearing class	