SUBJECT PLAN (3rd Semester)

Ceramic Manufacturing process

Sl.No	TOPIC	Reference	Assignment	Comment /periods
1.0	**Introduction to ceramic manufacturing.**			
1.1	Various steps for manufacturing ceramic.	Sudhir sen	Yes	Two periods
1.2	Various machines used in manufacturing process.	Sudhir sen	Yes	Two periods
1.3	Kiln used for ceramic firing.	Sudhir sen	Yes	Two periods
1.4	Important factors relating to ceramic making.	Sudhir sen	Yes	Two periods
1.5	Important tests for ceramic production quality assessment.	Sudhir sen	Yes	Two periods
2.0	**Size reduction.**			
2.1	various types of machines used in size reduction.	Sudhir sen	Yes	Two periods
2.2	discuss various methods of crushing and grinding.	Sudhir sen	Yes	Two periods
2.3	various factors influencing grinding efficiency and special	Sudhir sen	Yes	Two periods

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	emphasis on ball mill.			
2.4	Particle size analysis and various seeds and equipment used for it.	Sudhir sen	Yes	Two periods
2.5	fundamental ideas on furnace model of packing, theory of settling, application of stock's law.	Sudhir sen	Yes	Two periods
3.0	**Forming methods and forming machine.**			
3.1	Body preparation and machines used for it.	Sudhir sen	Yes	Two periods
3.2	basics Ideas on the principle of operation of machines for body preparation such as blunger , agitator , filter press, spray drier, pugmill extra.	Sudhir sen	Yes	Three periods
3.3	fundamental ideas on refractory batch making and machines used for it such as mixing machines.	Sudhir sen	Yes	Two periods
3.4	Farming methods and machines used for it for whiteware making.	Sudhir sen	Yes	Two periods
3.5	principle of operation of Potter's wheel Jigger and	Sudhir sen	Yes	Three periods

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	jolly, roller head, pan mill, press extra.			
3.6	basic ideas on various types of pressing machine for refractory shaping. Special emphasize on fsp, hydraulic press, isostatic press.	Sudhir sen	Yes	Two periods
3.7	Slip casting process and various factors relating to slip casting.	Sudhir sen	Yes	Two periods
3.8	Special forming methods for special ceramics such as hot pressing, injection moulding, reaction hot pressing, sol gel method etc.	Sudhir sen	Yes	Two periods
3.9	basic ideas on glazing operation and machines and equipment required for it.	Sudhir sen	Yes	Two periods
4.0	**Drying and driers.**			
4.1	Various stages of drying of ceramic wares.	Sudhir sen	Yes	Two periods
4.2	Discuss on changes on drying and various external parameters on drying.	Sudhir sen	Yes	Three periods

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4.3	Various drying defect and their elimination.	Sudhir sen	Yes	Two periods
4.4	Description of various types of industrial drier and special emphasize on tunnel drier.	Sudhir sen	Yes	Three periods
5.0	**Firing behaviour**.			
5.1	Discuss various changes on firing.	Sudhir sen	Yes	One period
5.2	Various types of firing operation.	Sudhir sen	Yes	Two periods
5.3	Various stages of firing of ceramic wares .	Sudhir sen	Yes	One period
5.4	Explain various firing defects and their elimination.	Sudhir sen	Yes	Two periods
5.5	basic ideas on calcination, sintering, vitrification, fusion, and melting.	Sudhir sen	Yes	One period
5.6	Advance firing process in ceramic making.	Sudhir sen	Yes	One period
5.7	kiln and kiln accessories, conveyor, and feeders need for manufacturing process.	Sudhir sen	Yes	Two periods

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