



DEPARTMENT OF MECHANICAL ENGINEERING

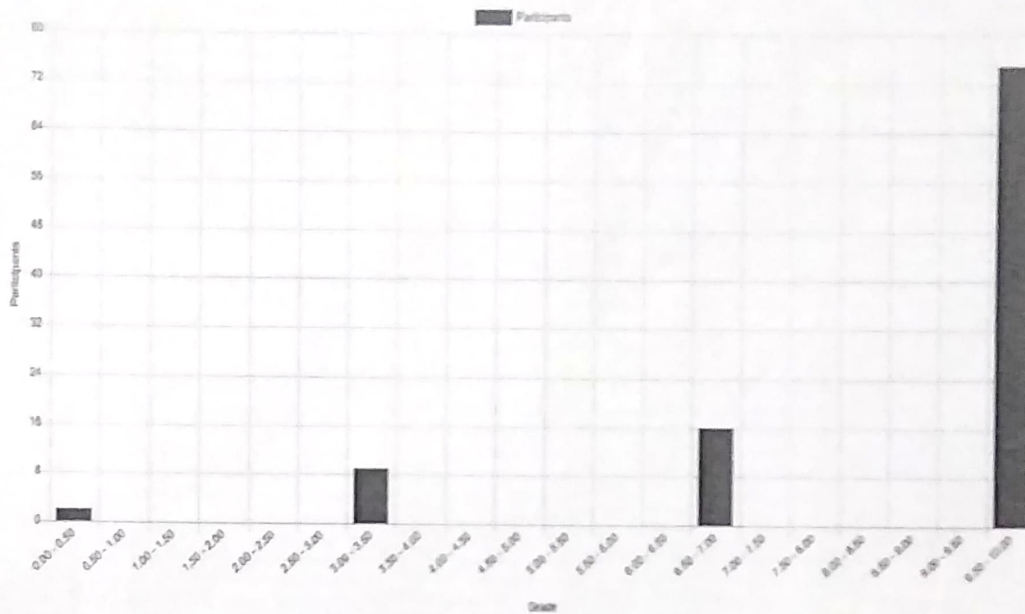
ACTIVITY BASED LEARNING

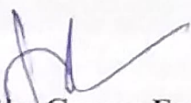
Course Code & Course Title : 19ME402 MANUFACTURING TECHNOLOGY-I
 Year/Sem/Branch : I /I/MECHANICAL ENGINEERING
 Name of Faculty : Dr. A. THAMARAI SELVAN
 Designation : ASSISTANT PROFESSOR (SG)
 Unit Title : METAL CASTING
 Topic : SAND MOULDING PROCESS
 Learning Objective : STEPS INVOLVED IN SAND MOULDING
 Bloom's Taxonomy Level : Understanding -K2

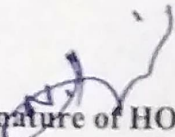
S.No.	Title	Description
1	Concept	Concept is to make the students, understand the various tools and steps involved in making a sand mould
2	Challenges Faced	(Difficulties faced by students while it was taught in conventional method) <ul style="list-style-type: none"> In conventional method, students were taught once in classroom Slow learners need to listen the topic several times to understand the concept
3	Name of the Activity	Video Lecture
4	Description of the Activity	<ul style="list-style-type: none"> Introduction about the topic: <u>DOCUMENT</u> Additional document was shared to the students to give them detailed introduction about the topic. Self-video: https://youtu.be/Q990buAU6wc I personally made one video, Once all the materials were shared to the students, after the class quiz was posted. They were given sufficient time but only one attempt was allowed. Students showed much interest to clarify the doubts. The activity was planned in online,
5	Feedback from Learners (Consolidated)	<u>Google form</u> <u>Analysis report</u>
6	Feedback of the Faculty about this activity	(Previous experiences Vs Activity Based Teaching) Most of the students attempted the quiz, they came up with good understanding on the topic.

Analysis Report Chart.

Good marks were secured by the students in the assessment. Comparison chart of student's performance in Assessment before and after the activity is given below. The pass percentage increased from 75% to 98%.

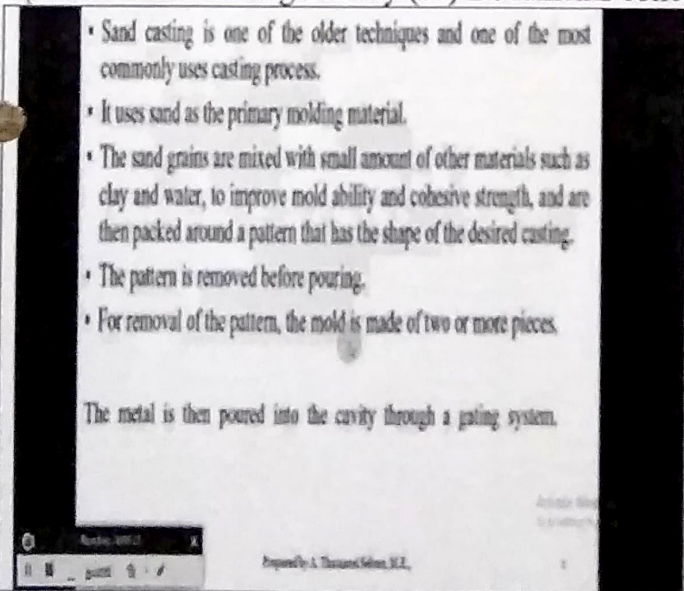



Signature of the Course Faculty


Signature of HOD

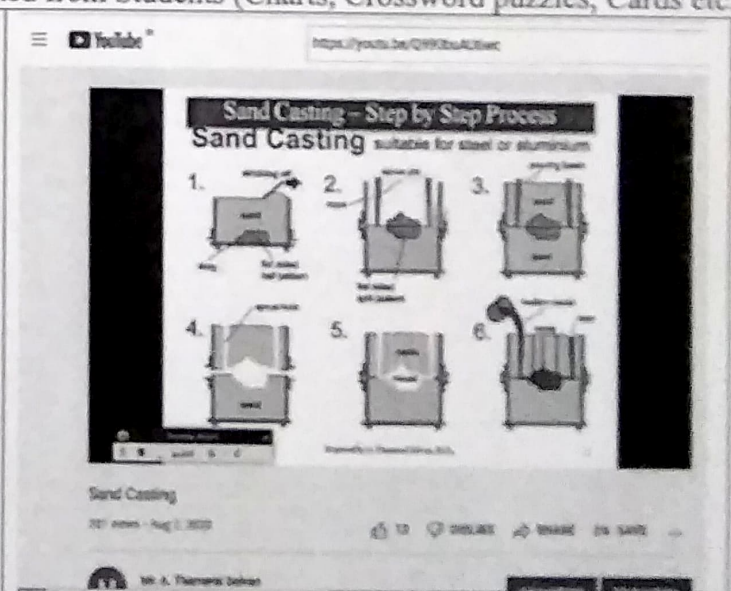
Evidences/Proofs (To be attached along with this document)-Mandatory

{Photos taken during activity (or) Documents collected from Students (Charts, Crossword puzzles, Cards etc.,)}



- Sand casting is one of the older techniques and one of the most commonly uses casting process.
- It uses sand as the primary molding material.
- The sand grains are mixed with small amount of other materials such as clay and water, to improve mold ability and cohesive strength, and are then packed around a pattern that has the shape of the desired casting.
- The pattern is removed before pouring.
- For removal of the pattern, the mold is made of two or more pieces.

The metal is then poured into the cavity through a gating system.



Sand Casting - Step by Step Process
Sand Casting suitable for steel or aluminium

1. Preparing the sand
2. Preparing the mold
3. Preparing the pattern
4. Preparing the mold
5. Preparing the mold
6. Preparing the mold

Sand Casting
2:07 mins - Aug 2, 2020
12 views

Fig .1. Vedio appeared in LMS- Moodle

Fig .2. No of persons viewed the video (141 public views)

Table 1. Students feedback

S. N10	REGISTER N10.	NAME 10F THE STUDENT	Explain a methodical approach to the management of product development to satisfy the customer needs	Demonstrate the structured approaches concept generation and selection	Demonstrate the potential linkages between architecture of product and areas of managerial importance	Use the process design to integrate with Digital manufacturing which can be cost effective and considering aesthetic and ergonomics factors	Analyze DFM cost reduction and make decision over optimization
1	212217114158	P.SANDEEP.	Excellent	Good	Good	Good	Good
2	212218114007	AJAY VASANTH S.	Excellent	Excellent	Excellent	Good	Good
3	212218114012	ARUN B.	Excellent	Good	Excellent	Fair	Excellent
4	212218114033	DHANVANDHIRAN J.	Good	Excellent	Excellent	Excellent	Excellent
5	212218114034	DHILIP KUMAR A.	Excellent	Excellent	Excellent	Good	Good
6	212218114036	DIVAKAR S.	Excellent	Excellent	Good	Excellent	Excellent
7	212218114040	GANGAVARAPU PAVAN	Excellent	Good	Good	Good	Excellent
8	212218114044	GOUTHAM R.	Excellent	Excellent	Good	Good	Good
9	212218114045	GOWTHAM K.	Good	Good	Good	Good	Good
10	212218114046	GUNDRATHI DINESH GOUD.	Excellent	Good	Good	Good	Fair
11	212218114047	GURU VIKRAM G.	Excellent	Excellent	Excellent	Good	Fair
12	212218114048	HARISH A.	Excellent	Excellent	Good	Good	Good
13	212218114050	HARSHAVARTHAN DURAI T.	Excellent	Good	Good	Good	Good
14	212218114052	JAGADEESHWARAN S.	Excellent	Excellent	Excellent	Good	Good
15	212218114053	JAIVIGNESH R.	Excellent	Good	Excellent	Fair	Excellent
16	212218114054	JANARTHANAN V.	Good	Excellent	Excellent	Excellent	Excellent
17	212218114055	JAVEED AQTHAR S H.	Excellent	Excellent	Excellent	Good	Good
18	212218114057	JAYAPRAKASH N.	Excellent	Excellent	Good	Excellent	Excellent
19	212218114058	JAYASURYA V.	Excellent	Good	Good	Good	Excellent
20	212218114060	KARTHICK B.	Excellent	Excellent	Good	Good	Good
21	212218114063	KISHOR T.	Good	Good	Good	Good	Good
22	212218114064	KONDLAPUDI SREEKAR REDDY.	Excellent	Good	Good	Good	Fair
23	212218114096	PRAVEENRAJ S.	Excellent	Excellent	Excellent	Good	Fair
24	212218114097	RAJA V.	Excellent	Excellent	Good	Good	Good
25	212218114098	RAJAMANI P.	Excellent	Good	Good	Good	Good
26	212218114099	RAJ KUMAR J.	Excellent	Excellent	Excellent	Good	Good
27	212218114105	RISHIKESH K.	Excellent	Good	Excellent	Fair	Excellent
28	212218114106	RITHIK RAJ R.	Good	Excellent	Excellent	Excellent	Excellent
29	212218114107	ROHITH R.	Excellent	Excellent	Excellent	Good	Good
30	212218114108	ROJA D.	Excellent	Excellent	Good	Excellent	Excellent
31	212218114109	ROSHAN R.	Excellent	Good	Good	Good	Excellent
32	212218114110	SAI RAVI TEJA J M.	Excellent	Excellent	Good	Good	Good
33	212218114111	SANDEEP A.	Good	Good	Good	Good	Good
34	212218114113	SANTHOSH KUMAR J.	Excellent	Good	Good	Good	Fair
35	212218114116	SELVA V.	Excellent	Excellent	Excellent	Good	Fair
36	212218114117	SELVAKUMARAN P V.	Excellent	Excellent	Good	Good	Good
37	212218114118	SESHANTH D.	Excellent	Good	Good	Good	Good
38	212218114119	SHAIK MUNNA.	Excellent	Excellent	Excellent	Good	Good
39	212218114120	SIVAPRIYA S.	Excellent	Good	Excellent	Fair	Excellent
40	212218114121	SOMA SUNDARAM P R.	Good	Excellent	Excellent	Excellent	Excellent
41	212218114123	SRIMATHAM SASANK REDDY.	Excellent	Excellent	Fair	Good	Good
42	212218114125	SRI RAJ KUMAR S P.	Excellent	Excellent	Good	Excellent	Excellent
43	212218114126	SRI VARSHAN R.	Excellent	Good	Good	Good	Excellent
44	212218114127	SRIVIGNESH K.	Excellent	Excellent	Good	Good	Good
45	212218114137	THARUN S N.	Good	Good	Good	Good	Good
46	212218114143	VASANTHAVANAN G.	Excellent	Excellent	Excellent	Good	Fair
47	212218114148	VIGNESH D.	Excellent	Excellent	Good	Good	Good
48	212218114150	VIJAYA LAKSHMI S.	Excellent	Good	Good	Good	Good
49	212218114303	ARAVINDH KUMAR M.	Excellent	Excellent	Excellent	Good	Good
50	212218114309	JAYAPRAKASH K.	Excellent	Good	Excellent	Fair	Excellent
51	212218114314	R.RAGUL.	Good	Excellent	Excellent	Excellent	Excellent
52	212218114317	SANJAY RAM M.	Excellent	Excellent	Fair	Good	Good
53	212218114318	SUGANKUMAR K.	Excellent	Excellent	Good	Excellent	Excellent
54	212218114321	VIJAYAKRISHNAN R.	Excellent	Excellent	Excellent	Good	Fair
55	212218114322	VUYYURI BHANU PRAKASH.	Excellent	Excellent	Good	Good	Good
56	212218205015	HANSHUL ANSAR S.	Excellent	Good	Good	Good	Good
57	212218205035	POOVARASAN P.	Excellent	Excellent	Excellent	Good	Good
58	212218205037	PREETHA T.	Excellent	Good	Excellent	Fair	Excellent
59	212218205049	SHALINI V.	Good	Excellent	Excellent	Excellent	Excellent
60	212218205050	SHANMUGA LAKSHMI .V.	Excellent	Excellent	Fair	Good	Good
61	212218205053	SHARMILA B.	Excellent	Excellent	Good	Excellent	Excellent
62	212218205056	SHREEJA R.	Excellent	Good	Good	Good	Excellent
63	212218205057	SRIKUMAR R.	Excellent	Excellent	Good	Good	Good
64	212218205061	VIGNESH .D.	Good	Good	Good	Good	Good
			CO1	CO2	CO3	CO4	CO5
			30	25	26	30	15
			10	15	14	10	20
			5	5	5	5	10
			0	0	0	0	0
			2.56	2.44	2.47	2.56	2.11