<table>
<tr><td colspan="8">Department of Metallurgical and Materials Engineering</td></tr>
<tr><td rowspan="2">Course Code</td><td rowspan="2">Title of the course</td><td rowspan="2">Program Core (PCR) / Electives (PEL)</td><td colspan="4">Total Number of contact hours</td><td rowspan="2">Credit</td></tr>
<tr><td>Lecture (L)</td><td>Tutorial (T)</td><td>Practical (P)</td><td>Total Hours</td></tr>
<tr><td>MMS753</td><td>Ferrous Process Metallurgy Lab</td><td>PCR</td><td>0</td><td>0</td><td>3</td><td>3</td><td>1.5</td></tr>
<tr><td colspan="2">Pre-requisites</td><td colspan="6">Course Assessment methods (Continuous (CT) and end assessment (EA))</td></tr>
<tr><td colspan="2">Nil</td><td colspan="6">CT+EA</td></tr>
<tr><td colspan="2">Developer</td><td colspan="6">Dr. Susanta Pramanik & Dr M.K. Mondal</td></tr>
<tr><td>Course Outcomes</td><td colspan="7">CO1:To understand the method of agglomeration of iron ore fines in three different routes
CO2:To compare the different properties in green and indurated condition of different routes of agglomeration
CO3:To study the fluid dynamics in a cold model of B.O.F
CO4:To study the turbulence in a water model Of CC tundish
CO5:To have the ability of solving industrial problems</td></tr>
<tr><td>Topics Covered</td><td colspan="7">Experiment -1: To Perform sintering of iron ore fines in laboratory Sintering Machine (3h)
Experiment-2: To perform the properties of sinter produced (3h)
Experiment -3: To manufacture iron ore fines Pellets in a disc pelletizer (3h)
Experiment-4: To study the green and indurated properties of pellets (3h)
Experiment -5: To manufacture Briquettes of iron ore fines. (3h)
Experiment-6: To study the effect of velocity and nozzle diameter and no of nozzles on the diameter and depth of Crater formed in a water model of Ld Converter (3h)
Experiment -7 : To study the effect of inclusions in single strand continuous casting model (3h)
Experiment-8 : To study the effect of Dams on the flow characteristics in single strand continuous casting model (3h)</td></tr>
<tr><td>Text Books, and/or reference material</td><td colspan="7">Text Books:
1. Ghosh, A. and Chatterjee, A., Principles and Practices in Iron and Steel making, Prentice Hall of India, New Delhi, 2008.</td></tr>
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