

VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY (VSSUT), ODISHA
Odd Mid Semester Examination for Academic Session 2025-26

COURSE NAME: B. TECH

SEMESTER: 1st

BRANCH NAME: Sec. – M, N, O, P, Q, R, S & T
SUBJECT NAME: **Basic Manufacturing Processes**

FULL MARKS: 30

TIME: 90 Minutes

Answer All Questions.

The figures in the right hand margin indicate Marks. *Symbols carry usual meaning.*

- Q1. Answer all Questions. [2 × 3]
- a) Define Foundry? What are the different steps involved in casting process? - CO1
 - b) How does directional solidification differ from progressive solidification? - CO2
 - c) Explain the *green strength* and *dry strength* properties of moulding sand. - CO1
- Q2. [8]
- What is pattern? With a neat sketch explain various types of pattern? - CO1
- OR
- Define sand test? Name the different types of test and explain any two test with a neat sketch? [5+3] - CO1
- Q3. [8]
- What is die casting? With a neat schematic diagram explain the process of hot chamber die casting? - CO2
- OR
- With neat sketch explain true-centrifugal casting process to cast an iron pipe. - CO2
- Q4. [8]
- Why allowances are provided on the pattern? Explain the different pattern allowances? - CO1
- OR
- With a neat schematic diagram explain the grain structure of Pure metal, alloy & alloy with nucleating agent? - CO2