

VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY (VSSUT), ODISHA
Odd Mid Semester Examination for Academic Session 2024-25

COURSE NAME: B. TECH.

SEMESTER: 1st

SECTION NAME: D, E, F, G, H, I, J
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) What do you mean by green sand? - CO1
 - b) Write down the name of four special casting processes. - CO2
 - c) Define welding. - CO3
- Q2. [8]
- Describe briefly with neat sketches eight different types of patterns. - CO1
- OR [4+4]
- a) Describe with neat sketches different pattern allowances. - CO1
 - b) Write down ten important properties of moulding sand.
- Q3. [8]
- Considering a square mold, show the variation of grain structure from the wall to the core in case of pure metal, alloy and alloy with nucleating agent. Describe briefly the reason for the variation of grain structure. - CO2
- OR
- Describe in detail with neat sketches the hot and cold chamber die casting processes. - CO2
- What are the drawbacks in case of hot chamber die casting processes?
- Q4. [4+4]
- a) Classify the different types of welding processes. - CO3
 - b) Write down the different chemical reactions that take place when acetylene reacts with oxygen.
- OR
- a) Describe with neat sketches different types of flames that occur in oxyacetylene gas welding. Also state the application of each flame. - CO3
 - b) Describe with neat sketch the gas welding setup and functions of each equipment.