R20

SET - 1

II B. Tech I Semester Regular Examinations, July - 2023
PRODUCTION TECHNOLOGY
(Mechanical Engineering)

Time: 3 hours   Max. Marks: 70

Answer any **FIVE** Questions, each Question from each unit
All Questions carry **Equal** Marks
~~~~~~~~~~~~~~~~~~~~~~~~~

UNIT-I

1 a) Why is match plate pattern is much easier to use than a standard pattern? Explain. [7M]
   b) What are different types of gates in sand moulding process? Explain. [7M]

Or

2 a) List out the steps involved in making a casting. Explain them in detail with the help of neat sketches. [7M]
   b) What are expendable patterns and why they are used? [7M]

UNIT-II

3 Explain the working principle of shell mould casting, hot chamber and cold chamber die casting process [14M]

Or

4 a) Explain various steps for making a casting by die casting process. [7M]
   b) Is there any difference in the tendency for shrinkage void formation for metals with short and long freezing ranges, respectively? Explain. [7M]

UNIT-III

5 a) Describe the projection welding process with neat sketch. [7M]
   b) Write the applications, advantages and limitations of seam welding. [7M]

Or

6 a) Why do properties vary widely in most welding heat affected zones? [7M]
   b) With the help of a neat sketch explain the inert gas welding process. [7M]

UNIT-IV

7 a) Explain the principle of Electro hydraulic forming and Rubber pad forming. [7M]
   b) Explain the types of deflections that rolls undergo during working. [7M]

Or

8 a) Explain recrystallization and grain growth processes and their effect on properties of a metal worked component. [7M]
   b) Explain the selection of optimum hot working temperature. [7M]

UNIT-V

9 a) What are different press working operations? Classify them. [7M]
   b) Derive the forces required in extrusion process. [7M]

Or

10 a) Explain the effect of friction and strip tensions on rolling load and process. [7M]
    b) What principles are normally considered good practice in the design of drop forgings? [7M]

|"|'|||||"|"|||'|