

Roll No



**PRESIDENCY UNIVERSITY
BENGALURU**

**SCHOOL OF ENGINEERING
END TERM EXAMINATION - JUN 2023**

Semester : Semester IV - 2021

Course Code : MEC2013

Course Name : Sem IV - MEC2013 - Production Techniques-I

Program : MEC

Date : 19-JUN-2023

Time : 9.30AM - 12.30PM

Max Marks : 100

Weightage : 50%

Instructions:

- (i) Read all questions carefully and answer accordingly.*
- (ii) Question paper consists of 3 parts.*
- (iii) Scientific and non-programmable calculator are permitted.*
- (iv) Do not write any information on the question paper other than Roll Number.*

PART A

ANSWER ALL THE QUESTIONS

(5 X 2 = 10M)

1. What is Taper allowance means in casting. (CO1) [Knowledge]
2. List the disadvantage of weld joints. (CO2) [Knowledge]
3. List the disadvantages of Cold working process. (CO5) [Knowledge]
4. List the disadvantages of Metal Working Processes. (CO4) [Knowledge]
5. List the function of having mandrel in tube drawing. (CO3) [Knowledge]

PART B

ANSWER ALL THE QUESTIONS

(6 X 10 = 60M)

6. Hollow cylinders or tubes which are made by various hot working processes such as extrusion, piercing or rolling are normally finished by tube drawing. Explain the principle of tube drawing with neat sketch explain the procedures. (CO3) [Comprehension]

7. The forging hammer or drop hammer, delivers rapid impact blows to the surface of the metal, while the forging press subjects the metal to a slow speed compressive force. List out five advantages, disadvantages and limitations of forging.
(CO2) [Comprehension]
8. •Extrusion is process by which a block of metal is reduced in cross-section by forcing it to flow through a die orifice under high pressure. Briefly explain with neat sketch the principle of extrusion and list the advantages and disadvantages
(CO3) [Comprehension]
9. Wev know that the high temperatures and pressures have detrimental effect (harmful) on the die life as well as other components of the machine. Brifly explain the following processes with sketch.
- Impact Extrusion
 - Extrusion Forging
 - Tube Extrusion
- (CO1) [Comprehension]
10. List the advantages, Apppiccations and Limitations of Joining Process.
(CO2) [Comprehension]
11. However, to reduce the wall thickness and to control the inside diameter, the inside surface of the tube must be supported while drawing. List and explain the methods of tube drawing.
(CO2) [Comprehension]

PART C

ANSWER ALL THE QUESTIONS

(2 X 15 = 30M)

12. The plastic deformation of material occurs by applying force greater than the yield strength of the material. Once the force is applied, the change in physical shape of the material cannot be undone. With respect to this, differentiate hot working and cold working process.
(CO2) [Application]
13. Briefly explain principle of Gas Tungsten Arc welding and list applications, advantages and disadvantages.
(CO2) [Application]