



K. K. Wagh Institute of Engineering Education & Research, Nashik
(An Autonomous Institute From A.Y. 2022-23)

SUMMER-2024	
Exam Seat No.:	
Academic Year:2023-2024	Semester:III
Class: SY	Program:B.Tech
Branch Code:ROB	Pattern:2022
Name of Course:Manufacturing Technology	Course Code: ROB222002
Max. Marks:60	Duration:2.30 Hrs.

Instructions: Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.

1. This question paper contains 2 pages.
2. Answer to each new question is to be started on a new page.
3. Assume suitable data wherever required, but justify it.
4. Draw the neat labelled diagrams, wherever necessary.
5. The last columns indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question.

Question No. 1 Attempt following Question

- 1a) Examine the procedures involved in the cleansing and finalizing of castings. (6) CO5
Highlight the significance of post-casting operations.

Question No. 2 Attempt following Question

- 2a) Explain the principles underlying the theory of plasticity. Why is plastic deformation essential in metal forming techniques? (6) CO2, CO5

Question No. 3 Attempt following Question

- 3a) Explain the significance of the extrusion ratio within the extrusion procedure. (8) CO2, CO5
How does it impact the flow of material?

OR

- 3b) Examine the concept of maximum reduction achievable in a single pass during wire drawing, and describe the forces necessary for the wire drawing process (8) CO2, CO5

- 3c) Examine how friction from equipment affects the extrusion process and propose methods to reduce its influence. (8) CO2, CO5

OR

- 3d) Explore the characteristics and applications of direct and indirect extrusion techniques. (8) CO2, CO5

Question No. 4 Attempt following Question

- 4a) Discuss the working of Gas welding with diagram. (8) CO3, CO5

OR

- 4b) Explain the classification of welding processes. Give examples for each category. (8) CO3, CO5
- 4c) Explain the working of Plasma arc welding with suitable diagram. (8) CO3, CO5

OR

- 4d) Explain the working of MIG welding with suitable diagram. (8) CO3, CO5

Question No. 5 Attempt following Question

- 5a) Explain the steps involved in Electrochemical machining. Highlights its advantages and limitations. (8) CO4, CO5

OR

- 5b) Discuss turning, milling and drilling processes in brief with suitable diagrams. (8) CO4, CO5
- 5c) Explain in brief about ultrasonic machining with suitable diagram. (8) CO4, CO5

OR

- 5d) Investigate how robots are utilized in machining operations. Describe their role in enhancing manufacturing efficiency and precision. (8) CO4, CO5

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