

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY,  
LONERE - RAIGAD - 402 103  
Summer Semester Examination - May - 2018**

**Branch:** M. Tech.

**Semester:** II

(Manufacturing / Production / Manufacturing Process Engineering)

**Subject with Subject Code:** METAL FORMING PROCESSES  
[MMF201]

**Marks:** 60

**Date:** 14 / 05 / 2018

**Time:** 3 Hrs.

**Instructions to the Students:**

1. Attempt any five questions of the following.
2. Illustrate your answers with neat sketches, diagram etc., wherever necessary.
3. If some part or parameter is noticed to be missing, you may appropriately assume it and should mention it clearly.

**Q. No. 1**

- |                                                             |    |
|-------------------------------------------------------------|----|
| (a) What does yielding of isotropic plastic material means? | 6M |
| (b) What is yield criteria?                                 | 6M |

**Q. No. 2**

- |                                                                                        |    |
|----------------------------------------------------------------------------------------|----|
| (a) Discuss the various factors which affect the rolling force.                        | 6M |
| (b) What are different defects in rolling process? What are their causes and remedial. | 6M |

**Q. No. 3**

- |                                                                           |    |
|---------------------------------------------------------------------------|----|
| (a) What are the various methods of tube drawing? Compare them.           | 6M |
| (b) Discuss the different variables that affect the deep drawing process. | 6M |

**Q. No. 4**

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|-------------------------------------------------------------------------------------------------------------------------------|----|
| (a) Explain the operation that are normally employed in forging and how forging improves the mechanical properties.           | 6M |
| (b) Sketch and describe the following forging tools:<br>(i) Anvil, (ii) Swage Block, (iii) Ball pin hammers, and (iv) Hardie. | 6M |

**Q. No. 5** Explain the basic rules of die design for machine forging. Write its advantages and limitations of machine forging. 12M

**Q. No. 6** Write short notes on: 12M  
(a) Defects in wire drawing.  
(b) Isothermal forging.  
(c) Heat generation in metal forming process.

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