

R16**Code No: 134BK****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B.Tech II Year II Semester Examinations, May - 2019****MANUFACTURING PROCESS****(Mechanical Engineering)****Time: 3 Hours****Max. Marks: 75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit.

Each question carries 10 marks and may have a, b as sub questions.

PART – A**(25 Marks)**

- 1.a) List the advantages of metallic pattern materials. [2]
- b) What are the applications of sweep pattern? [3]
- c) Differentiate between Welding and soldering. [2]
- d) Explain the basic principle of resistance welding? [3]
- e) Discuss the parameters affecting Heat Affecting zone (HAZ) briefly. [2]
- f) Explain the principle of seam welding. [3]
- g) Differentiate blanking and piercing? [2]
- h) What is hot rolling? [3]
- i) What is swaging? [2]
- j) What are the forging defects? [3]

PART – B**(50 Marks)**

2. Explain the principle of investment casting with necessary sketches. [10]
- OR**
3. Describe the working of cupola with sketch. [10]
4. Sketch and explain atomic hydrogen welding. [10]
- OR**
5. Categorize in detail welding defects and their causes and remedies. [10]
6. With sketch, explain the laser beam welding process. Mention advantages and limitation of laser welding also give application. [10]
- OR**
7. Discuss magneto particle and radiographic inspection testing of weldings. [10]
8. Discuss recovery, recrystallisation and grain growth. [10]
- OR**
9. Illustrate wire drawing and Tube drawing. [10]
- 10.a) Discuss impact extrusion.
- b) Enumerate the principles of forging. [5+5]
- OR**
- 11.a) With a neat sketch, explain hydrostatic extrusion.
- b) Discuss smith forging and roll forging. [5+5]