

Total No. of Questions : 8]

SEAT No. :

PD4151

[Total No. of Pages : 2

[6402]-112

**S.E. (Robotics and Automation)
MANUFACTURING TECHNOLOGY
(2019 Pattern) (Semester - III) (211502)**

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Answers Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.
- 4) Assume suitable data, if necessary.

- Q1) a)** How to do analysis of wire drawing operation. **[9]**
b) What materials are commonly used in extrusion processes, and what factors influence material selection. **[8]**

OR

- Q2) a)** Explain strip drawing operation in detail. **[9]**
b) How does die design impact the extrusion process? Provide examples of different die designs and their applications. **[8]**

- Q3) a)** List and explain fundamental principles involved in spot welding process. Also state its advantages and limitations. **[9]**
b) Explain ultrasonic welding process in detail. **[8]**

OR

- Q4) a)** Elaborate equipment/accessories needed to carry MIG operation. **[9]**
b) How does the thickness and types of base material influence the welding process and joint design? **[8]**

- Q5) a)** Explain with a neat sketch process of plasma arc machining. **[9]**
b) Compare conventional machining process to non-conventional machining process. Also write advantages and limitations of both processes. **[9]**

OR

P.T.O.

- Q6)** a) Discuss laser electrochemical machining in detail. [9]
- b) Explain working principle of EDM. [9]

Q7) Write a short note on:

- a) Emerging trends or future directions in the field of robotics and their potential impact on various industries. [6]
- b) Assembly of parts using robot. [6]
- c) Application of robot for painting work. [6]

OR

Q8) Write a short note on:

- a) Application of robotics in press working operation. [6]
- b) Utilization of robotics in manufacturing process. [6]
- c) Advantages of robotics in pharmaceutical industry. [6]

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