Total No. of Questions : 8]

SEAT No. :

P1607

[Total No. of Pages : 2

[6002]-237

S.E. (Robotics and Automation)

MANUFACTURING TECHNOLOGY

(2019 Pattern) (Semester-III) (211502)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Solve 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.***
5) ***Use of logarithmic Table, Slide rule is Electronic pocket calculator is allowed.***

Q1) a) Explain with neat sketch tube drawing process. **[9]**

b) Explain extrusion operation with its schematic diagram. **[8]**

OR

Q2) a) Explain any four extrusion process variables with sketch. **[9]**

b) Discuss forces required in drawing, multiple drawing and strip drawing. **[8]**

Q3) a) Explain the different types of welding electrodes used in arc welding process? **[9]**

b) Describe the flux materials used in TIG welding? **[8]**

OR

Q4) a) Explain the application of Alternating current (AC), Direct Current Straight Polarity (DCSP) and Direct Current Reverse Polarity (DCRP) in Shielded Metal Arc Welding (SMAW) process. **[9]**

b) How the heat balance is achieved in spot welding, explain the spot welding process? **[8]**

P.T.O.

Q5) a) Explain with neat diagram construction and working of Abrasive Jet Machining (AJM) process. **[9]**

b) Draw schematic diagram of Water Jet Machining (WJM). Explain its construction and working. **[9]**

OR

Q6) a) Explain briefly EDM process characteristics. **[9]**

b) Explain the construction and working principle of Plasma Arc Machining (PAM) with neat sketch. **[9]**

Q7) a) How to perform loading and unloading of parts in machining operations using robots. **[9]**

b) Elaborate on repetitive work cycle operations. **[9]**

OR

Q8) a) Explain spray painting robots and its advantages. **[9]**

b) Explain forging robots and press working robot **[9]**

❖ ❖ ❖