

Total No. of Questions : 8]

SEAT No. :

PB-3890

[Total No. of Pages : 2

[6262]-155

T.E. (Automobile / Mechanical Engg.)

ADVANCED FORMING AND JOINING PROCESSES

(2019 Pattern) (Semester - I) (302045A) (Elective-I)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) All questions are compulsory i.e. Solve Que 1 or Que 2, Que 3 or Que 4, Que 5 or Que 6, Que 7 or Que 8.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.

Q1) a) Explain in detail importance of effects of pre and post weld heat treatments processes? [8]

b) Explain in detail, the important factors considered in welding of dissimilar materials. [9]

OR

Q2) a) Explain the importance of weldability. Explain ASME and IS Welding Standards [8]

b) Explain in detail, Weld characterization, Weld decay and weld sensitization [9]

Q3) a) Explain with sketch, Friction stir welding process with advantages and limitations. [9]

b) Explain in detail with sketch, Roll welding process features and applications. [9]

OR

Q4) a) Explain in detail, Advances in adhesive bonding and cladding with features and advantages. [9]

b) Explain in detail with sketch, hot pressure welding process with advantages and limitations. [9]

P.T.O.

- Q5)** a) Analyze with the sketch, working of Cold Metal Transfer process and its applications. [8]
b) Explain with sketch, working principle of Underwater welding and its applications. [9]

OR

- Q6)** a) Analyze with the sketch, working of Atomic hydrogen welding process and its applications. [8]
b) Explain the Robotic welding, Plasma Arc welding and Plasma Transferred Arc welding. [9]

- Q7)** a) Explain in detail, concept of sustainability, Industry 4.0 and Green Manufacturing. [9]
b) Explain one case study on [9]
i) waste recycling and
ii) material recycling.

OR

- Q8)** a) Explain fundamentals of sustainable manufacturing, various tools of sustainable manufacturing, factors of sustainability [9]
b) Explain various Environment protection norms and Principles of Life Cycle Assessment. [9]

