

C.U.SHAH UNIVERSITY

Winter Examination-2018

Subject Name : Manufacturing Processes-II

Subject Code : 4TE05MPR1

Branch: B.Tech (Mechanical, Automobile)

Semester : 5

Date : 07/12/2018

Time : 10:30 To 01:30

Marks : 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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- Q-1** **Attempt the following questions:** **(14)**
- a) Give the difference between job type and batch type production.
 - b) List out the finishing process.
 - c) Define pattern.
 - d) State the function of parting sand.
 - e) List out casting defect.
 - f) What is the full name of TIG?
 - g) Write the chemical reaction of thermit welding.
 - h) What is fusion welding?
 - i) What is recrystallization temperature?
 - j) State the application of extrusion process.
 - k) State the function of punching.
 - l) Define elastomers.
 - m) Write the full name LIGA.
 - n) What is straight polarity?

Attempt any four questions from Q-2 to Q-8

- Q-2** **Attempt all questions** **(14)**
- (a) Explain the principle of Arc welding. **(3)**
 - (b) Explain the difference between spot and seam welding processes. **(4)**
 - (c) Sketch the cupola furnace. Describe its construction and working. **(7)**
- Q-3** **Attempt all questions** **(14)**
- (a) With a neat sketch, explain MIG arc welding. **(3)**
 - (b) Discuss the function of flux during welding. State the ingredients of flux **(4)**
 - (c) Explain the basic procedure in SAW with a neat sketch. What is "back up" in SAW? **(7)**
- Q-4** **Attempt all questions** **(14)**
- (a) Differentiate between hot working and cold working **(3)**
 - (b) State the material properties which are important in metal forming. **(4)**



- (c) Explain the effect of strain rate on yield strength of metals and alloys. Explain hot rolling process with a neat sketch. (7)

Q-5 Attempt all questions (14)

- (a) List various materials used for pattern and describe it's merits and demerits. (7)
(b) Describe casting defects stating their causes and remedies. (7)

Q-6 Attempt all questions (14)

- (a) Explain "Centrifugal Casting" method with neat sketch along with it's advantages over conventional green sand moulding. (7)
(b) Classify the types of pattern. Explain the skeleton pattern with neat sketch. (7)

Q-7 Attempt all questions (14)

- (a) List out the types of plastics used in manufacturing. And explain brief. (7)
(b) Explain injection molding processes with neat sketch. (7)

Q-8 Attempt all questions (14)

- (a) What is lithography? And Explain with neat sketch. (7)
(b) Explain solid free form fabrication. (7)

