Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Summer Examination-2018

Subject Name : Advanced Manufacturing Processes and Analyses
Subject Code : 5TE02AMP2 Branch : M.Tech Mechanical (CAD/CAM)

Semester : 2 Date : 02/05/2018 Time : 10:30 To 01:30 Marks : 70

Instructions:

(1) Use of Programmable calculator and 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.

SECTION – I

Q-1 **Attempt the Following questions** **(07)**

a A chip produced in metal machining experiences both stress and strain. True or False?
b What is the common value of SOD in AJM?
c Mention any two applications of LBW.
d The material removal in Electrical Discharge Machining takes place by which mechanism?
e What is the use of fluxes in welding?
f Define cryogenic machining.
g Why is CO_2 moulding called a hardening process?

Q-2 **Attempt all questions**

a Sketch and describe stress strain curve for a ductile metal subjected to tensile force. **07**
b Define weldability. Describe effect of alloying elements on weldability. **07**

OR

Q-2 **Attempt all questions**

a Describe following: **07**
i) Hydrostatic pressure ii) Workability .
b Discuss various types of materials and their stress strain curve. **07**

Q-3 **Attempt all questions**

a Write a note on deformation zone geometry. **07**
b Explain vacuum casting with neat sketch. **07**

OR

Q-3 **Attempt all questions**

a Write the causes of distortion in welding. How it is prevented? **07**
b List advanced welding techniques. Describe any one. **07**

SECTION – II

Q-4		**Attempt the Following questions**	**(07)**
	a	Define metal spinning.	
	b	All gases in gas welding are combined with ….. to obtain a gas flame.	
	c	What is hot machining?	
	d	Mention any two applications of USM.	
	e	Mechanical presses are used for which type of production?	
	f	Define rapid tooling.	
	g	Name the parameters of process capability.	
Q-5		**Attempt all questions**	
	a	Explain Selective laser sintering with its advantages and limitations.	**07**
	b	Write a note on Virtual / Augmented reality.	**07**
		OR	
Q-5		**Attempt all questions**	
	a	Write a note on micro-Machining.	**07**
	b	Describe chemical machining. Write its advantages and applications.	**07**
Q-6		**Attempt all questions**	
	a	Discuss why the AJM technique, when applied to ductile materials, leads to a low rate of metal removal.	**07**
	b	Write a note on Laminated-object manufacturing	**07**
		OR	
Q-6		**Attempt all Questions**	
	a	Define ‘ultrasonics’ and describe the process in which these are used to machine the material.	**07**
	b	Describe the RP technology called Fused-deposition modeling.	**07**