Printed Page:-	03 Subject Code:- AMTME0213
	Roll. No:
NOID	A INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA
	(An Autonomous Institute Affiliated to AKTU, Lucknow)
	M.Tech
	SEM:II CARRY OVER THEORY EXAMINATION-AUGUST 2023
	Subject: Advanced Welding Technology
Time: 3 Hour	Max. Marks: 70
General Instru	ictions:
IMP: Verify that	you have received the question paper with the correct course, code, branch etc.
<b>1.</b> This Question	n paper comprises of three Sections -A, B, & C. It consists of Multiple Choice
Questions (MCQ	's) & Subjective type questions.
<b>2.</b> Maximum mo	arks for each question are indicated on right -hand side of each question.
<b>3.</b> Illustrate you	r answers with neat sketches wherever necessary.
<b>4.</b> Assume suita	ble data if necessary.
<b>5.</b> Preferably, wi	rite the answers in sequential order.
<b>6.</b> No sheet sh	nould be left blank. Any written material after a blank sheet will not be
evaluated/check	ced.
	SECTION A 15
1. Attempt all	parts:-
1-a. The n	nelting point of filler metal in soldering is- [CO1]
	(a) below 420°C
	(b) above 420°C
	(c) below 520°C
	(d) above 520°C
1-b. Select	t the false statement on carbon steels [CO2]
	(a) After post weld heat treatment, the ductility of the material will increase
	(b) The peak temperature for post weld heat treatment of low alloy steel is
	generally higher than that for carbon steel
	(c) The heating and cooling rates do not influence the effectiveness of post
	weld heat treatment

1-c. Which one of them is not a distortion type. [CO3]

(a) Longitudinal type

thickness

(d) The soaking time is given for equalization of temperature across the

1

4. Answe	er any <u>one</u> of the following:-	
	SECTION C	35
3.g.	What is meant by manipulator design in welding robot? [CO5]	2
3.f.	The filler metal composition matters in its selection in welding, explain. [CO4]	2
3.e.	What is Continous drive friction welding? Write its advantages? [CO3]	2
3-d.	Explain Oxy-acetylene welding process used for Aluminium? [CO2]	2
3-c.	What are wealdibility considerations while welding Austenitic Stainless steel? [CO2]	۷
3-b.	Discuss estimation of cost for shielded metal arc welding process. [CO1]	2
3-a.	What is the effect of clearance in brazing? [CO1]	2
3. Answe	SECTION B er any <u>five</u> of the following:-	20
2.e.	Explain the process of Needle Arc Micro Plasma Welding. [CO5]	2
2.d.	Define root gap? [CO4]	2
2.c.	Explain Gas pressure bonding? [CO3]	2
2.b.	What is distortion? [CO2]	2
2.a.	What is the source of welding heat in Thermit welding? [CO1]	2
2. Attem	npt all parts:-	
	(d) None of the above	
	(c) Too small bead, weak weld, and wasted electrodes	
	(b) Excessive spatter, under cutting along edges, irregular deposits, was electrodes	tec
	(a) Excessive piling up of weld metal, poor penetration, wasted electrodes	
1-e.	Low welding current in arc welding would result in [CO5]	1
	(d) Porosity	
	(c) Incomplete fusion	
	(a) Inclusion of slag (b) Inadequate penetration	
	coating? [CO4]	
1-d.	Which of the following defects occur due to flux employed and electrode	1
	(d) Circular type	
	(c) Angular type	
	(b) Transverse type	

4-a.	Define polarity as applied to DC arc welding. How is this advantageously used? [CO1]	7	
4-b.	Differentiate between welding and mechanical fastening. [CO1]	7	
5. Answer any <u>one</u> of the following:-			
5-a.	What types of defects can be detected in a liquid penetrant test? [CO2]	7	
5-b.	What is meant by dwell and development time with respect to liquid penetrant testing? [CO2]	7	
6. Answ	er any <u>one</u> of the following:-		
6-a.	What is the principle of induction welding? Write its advantages, disadvantages and its applications? [CO3]	7	
6-b.	Explain Friction Stir Welding? What are its advantages, disadvantages and its applications? [CO3]	7	
7. Answer any <u>one</u> of the following:-			
7-a.	What is quality assurance in weld joint? [CO4]	7	
7-b.	Explain the flame spraying metallising process. [CO4]	7	
8. Answer any <u>one</u> of the following:-			
8-a.	Explain about robot welding [CO5]	7	
8-b.	What is meant by interfacing with periferal equipment in welding robotic design? [CO5]	7	