Total No. of Questions: 6

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#### Enrollment No.....



# Faculty of Engineering End Sem (Odd) Examination Dec-2018 AU3CO01 / FT3CO01 / ME3CO01

### **Production Processes**

Programme: B.Tech. Branch/Specialisation: AU/FT/ME

**Duration: 3 Hrs.** 

**Maximum Marks: 60** 

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

0.1 (N	(ICQs)	should be writte	en in full instea	d of only a, b,	c or d.	
Q.1	i.	In green sand moulding process, uniform ramming leads to			1	
		(a) Less chang	ge of gas poros	ity		
		(b) Uniform f	low of molten i	nto the mould	cavity	
		(c) Greater dia	mensional stabi	ility of the casti	ing	
		(d) Less sane	expansion type	of casting defe	ect	
	ii.	Pattern allowa	ances are:			1
		(a) 3	(b) 4	(c) 5	(d) 6	
	iii.	The hot tearing	g in a metal ca	sting is due to		1
		(a) High fluidity				
		(b) High melt temperature				
		(c) Wide range of solidification temperature				
		(d) Low coeff	icient of therm	al expansion		
	iv.	The channel t	through which	the molten me	etal is carried from the	1
		sprue to the ga	ate is called			
		(a) Core	(b) Sprue	(c) Runner	(d) Gate	
	v.			•	aping of metal using	1
			pressive force			
			• •	(c) Casting	•	
	vi.		sheet metal wo	rking involves	metal loss	1
		(a) Blanking		(b) Bending		
		(c) Deep draw	•	(d) Stretch for	· ·	
	vii.	, ,	_	<u> </u>	of cylinders	1
		(a) 1	(b) 2	(c) 3	(d) 4	
					P.T	.O.

	viii.	viii. Carburising flame is also called:		
		(a) Neutral flame	b) Oxidising flame	
		(c) Reducing flame (	d) None of these	
	ix.	A part produced by Powder me	etallurgy is termed as	1
		(a) Welding part	b) Casting part	
		(c) Forging part (	d) Sintered part	
	х.	Which of the following method metals:	d is used to make powder for brittle	1
		(a) Mechanical pulverisation	(b) Electrolytic process	1
		(c) Chemical reduction (	d) Atomization	
Q.2	i.	What is pattern? Name the type	es of pattern.	2
	ii.	Discuss the properties of mould	ding material.	3
	iii.	Discuss various types of core b	oxes with neat sketches.	5
OR	iv.	Why pattern allowances are p pattern allowances.	rovided? Explain different type of	5
Q.3	i.	What is the function of riser in	casting process?	2
	ii.	Sketch a common gating syste	m label it and explain the function	8
ΩD	•••	of its various elements.		0
OR	iii.	with diagram.	orking of any two melting furnaces	8
Q.4	i.	What is forging process? Give	its classification.	3
	ii.		limitations of press forging over	7
OR	iii.	drop forging? What is rolling process? Disc	cuss the different types of rolling	7
		mills with neat diagrams.	71	
Q.5	i.	· -	flames generated in gas welding?	3
	ii.	Discuss MIG welding with the	help of neat diagram.	7
OR	iii.	What are different welding Suggest remedies for removal.	defects? How are they caused?	7

Q.6		Write short note on any two:	
	i.	Sintering.	5
	ii.	Compaction.	5
	iii.	Advantage and limitations of powder metallurgy.	5

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## Marking Scheme AU3CO01 / FT3CO01 / ME3CO01

## **Production Processes**

Q.1	i.	In green sand moulding process, uniform ramming leads to (c) Greater dimensional stability of the casting			
	ii.	Pattern allowances are: (c) 5		1	
	iii.	The hot tearing in a metal casting is due to (c) Wide range of solidification temperature		1	
	iv.	The channel through which the molten metal is carried from the sprue to the gate is called (c) Runner			
	v.	Manufacturing process involving the shaping of localized compressive force is:  (a) Forging	of metal using	1	
	vi.	Which of the sheet metal working involves metal loss			
	vii.	(a) Blanking The oxy-acetylene welding system consist of cylinders (b) 2			
	viii.	Carburising flame is also called: (c) Reducing flame		1	
	ix.	A part produced by Powder metallurgy is termed as (d) Sintered part			
	х.	Which of the following method is used to make pometals:  (a) Mechanical pulverisation	wder for brittle	1	
Q.2	i.	What is pattern	1 mark	2	
	ii.	Types of pattern.  Any six properties of moulding material.  0.5 mark for each properties.	1 mark (0.5 mark *6)	3	
	iii.	0.5 mark for each properties  Any five types of core boxes with diagram  1 mark for each	(0.5 mark *5)	5	
OR	iv.	Why pattern allowances are provided Five types of pattern allowances.	2 marks 3 marks	5	

Q.3	i.	Two reason function of riser in casting process		2
		1 mark for each	(1 mark *2)	
	ii.	Diagram with label	2 marks	8
		All elements explanation	6 marks	
OR	iii.	Diagram with label and symbol of rotation	3 marks	8
		Principle, working and application	5 marks	
Q.4	i.	Forging process	1 mark	3
		Its classification	2 marks	
	ii.	Any 4 advantages of press forging over drop forgin	g	7
			4 marks	
		Any 3 limitations of press forging over drop forging	g	
			3 marks	
OR	iii.	What is rolling process	2 marks	7
		Types of rolling mills with diagrams	5 marks	
Q.5	i.	Any three flames generated in gas welding		3
	ii.	MIG welding	2 marks	7
		Diagram and working	5 marks	
OR	iii.	Any five welding defects	4 marks	7
		Remedies for removal.		
Q.6		Write short note on any two:		
-	i.	Sintering.		5
	ii.	Compaction.		5
	iii.	Advantage and limitations of powder metallurgy.		5

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