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6 <sup>th</sup> Sem <sup>210</sup> PRODUC wer Question No.1 an <sub>2</sub> The figures i Answer the following of Which of the following is (a) Capacity planning (c) Scheduling Product cost can be redu	T DESIGN & BRANG Time Max M Q.CO d 2 which an in the right h questions : m the prelimina (b) Mater (d) Produ	PRODUCT CH : MECH : 3 Hours Marks : 100 DE : C373 re compulse hand margin pultiple type of ry stage of Pr	ION TOOLING ory and any fo n indicate mar or dash fill up ty	PM 210 Pur from the r ks. 210 //pe :	IE6J001 210 est.
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Answer the following of Which of the following is (a) Capacity planning (c) Scheduling Product cost can be redu	<b>questions : m</b> the prelimina (b) Mater (d) Produ	nultiple type of Pr	or dash fill up ty	/pe :	
Which of the following is (a) Capacity planning (c) Scheduling Product cost can be red	the prelimina (b) Mater (d) Produ	ry stage of Pr		-	(2 x 10)
<ul><li>(a) Capacity planning</li><li>(c) Scheduling</li><li>Product cost can be red</li></ul>	(b) Mater (d) Produ	, ,	oduction plannin	na	
(c) Scheduling Product cost can be red	(d) Produ	ial requireme		.9	
Product cost can be red	· · /		•		
	uood by oopoi	•	•	at the design	
		dening the loi	•••••	•	
- 210	operations	210	210	210	210
	•	d not be provi	ded		
	st of standard	parts			
( )					
	•	• •	of products		
010	010		two or more die	a in order to	210
-		ng			
(c) Welding					
In which of the following	forging metal	is kept in the	lower die?		
(a) Open die	( )				
., .	. ,				040
		the gutter is	known as?	210	210
. ,	• •	ling			
( )	. ,	•	vill		
•			/11		
(c) Remains same	· · ·		n any production	process	
Which of the following ty					
(a) Limit gauge			210	210	210
.,		-	-		
•	•	ided on punch	nes and dies so t	hat	
• • •		in an impress	sion die forging is	s called and	210
		-			210
(c) Trimming		•			
	stage (a) Minimum number of (b) Unnecessary tight to (c) Design should consist (d) All of the above	stage 210 210 (a) Minimum number of operations (b) Unnecessary tight tolerance should (c) Design should consist of standard (d) All of the above helps in establishing the intervert (a) Standardization (b) Simple (c) Diversification (d) Species Shaping of metal by squeezing them obtain desire shape is done by? (a) Forming (b) Forging (c) Welding (d) Grind In which of the following forging metal (a) Open die (b) Close (c) Impression dies (d) None The extra metal which settles down in (a) Flash (b) Slag (c) Flux (d) Barret With the use of Jigs and fixture rate of (a) Increase (b) Decret (c) Remains same (d) Jigs at Which of the following type of gauge h (a) Limit gauge 210 (b) Fixed (c) Progressive gauge (d) Go ar In sheet metal blanking, shear is provi (a) press load is reduced (b) good cut edge is obtained (c) warping of sheet is minimized (d)cut blanks are straight The term applied to the first operation (a) Fullering (b) Block	stage 20 210 210 (a) Minimum number of operations (b) Unnecessary tight tolerance should not be provided (c) Design should consist of standard parts (d) All of the above helps in establishing the interchangeability (a) Standardization (b) Simplification (c) Diversification (d) Specialization Shaping of metal by squeezing them in between obtain desire shape is done by? (a) Forming (b) Forging (c) Welding (d) Grinding In which of the following forging metal is kept in the (a) Open die (b) Closed die (c) Impression dies (d) None of the Mention The extra metal which settles down in the gutter is b (a) Flash (b) Slag (c) Flux (d) Barreling With the use of Jigs and fixture rate of production w (a) Increase (b) Decrease (c) Remains same (d) Jigs are not used in Which of the following type of gauge has gauging s (a) Limit gauge 210 (b) Fixed gauge (c) Progressive gauge (d) Go and No Go gau In sheet metal blanking, shear is provided on punch (a) press load is reduced (b) good cut edge is obtained (c) warping of sheet is minimized (d)cut blanks are straight The term applied to the first operation in an impress (a) Fullering (b) Blocking	stage       20       20       20       20         (a) Minimum number of operations       (b) Unnecessary tight tolerance should not be provided       (c) Design should consist of standard parts         (d) All of the above	<ul> <li>(a) Minimum number of operations</li> <li>(b) Unnecessary tight tolerance should not be provided</li> <li>(c) Design should consist of standard parts</li> <li>(d) All of the abovehelps in establishing the interchangeability of products <ul> <li>(a) Standardization</li> <li>(b) Simplification</li> <li>(c) Diversification</li> <li>(d) Specialization</li> </ul> </li> <li>(e) Standardize in order to obtain desire shape is done by? <ul> <li>(a) Forming</li> <li>(b) Forging</li> <li>(c) Welding</li> <li>(d) Grinding</li> </ul> </li> <li>In which of the following forging metal is kept in the lower die? <ul> <li>(a) Open die</li> <li>(b) Closed die</li> <li>(c) Impression dies</li> <li>(d) None of the Mentioned</li> </ul> </li> <li>The extra metal which settles down in the gutter is known as? <ul> <li>(a) Flash</li> <li>(b) Slag</li> <li>(c) Flux</li> <li>(d) Barreling</li> </ul> </li> <li>With the use of Jigs and fixture rate of production will <ul> <li>(a) Increase</li> <li>(b) Decrease</li> <li>(c) Remains same</li> <li>(d) Jigs are not used in any production process</li> </ul> </li> <li>Which of the following type of gauge has gauging sections combined on one end <ul> <li>(a) Limit gauge</li> <li>(b) Fixed gauge</li> <li>(c) Progressive gauge</li> <li>(d) Go and No Go gauge</li> </ul> </li> <li>In sheet metal blanking, shear is provided on punches and dies so that <ul> <li>(a) press load is reduced</li> <li>(b) good cut edge is obtained</li> <li>(c) warping of sheet is minimized</li> <li>(d)cut blanks are straight</li> </ul> </li> <li>The term applied to the first operation in an impression die forging is called and <ul> <li>(a) Fullering</li> <li>(b) Blocking</li> </ul> </li> </ul>

210 <b>Q2</b>	Answer the following questions : <i>Short answer type :</i>	(2 x 10)	210			
a)	Define different product design processes.	(_ /)				
b)	Name the different factors consider in value analysis.					
c)	Compare single impression and multi impression die.					
d)	Justify the importance of the position of parting line.					
e)	What is the significance of process planning in industry?					
210 <b>f)</b>	How the size of forging machine is specified? 210 210		210			
g)	What are the main difference between Jigs and fixtures?					
h)	Write two important limitations of limit gauge.					
i)	Define "Deep Drawability".					
j)	Distinguish between blanking and piercing operation.					
Q3 a)	Describe in detail the role of computer in product design.	(8)				
<sup>210</sup> b)	What is mean by product specification? What are the components of it? Briefly explain the components.	(7)	210			
Q4 a)	Explain briefly the major factors a designer must consider before starting a product design and describe the product planning process.	(10)				
b)	Discuss various considerations in determining the sequence of operations.	(5)				
	A summer string lower of 0.0 mm diameters and 0.50 mm height into the fabric stady or a	(10)	010			
Q5 <sup>210</sup> a)	A symmetrical cup of 80mm diameter and 250mm height is to be fabricated on a deep drawing die. How many drawing operations will be necessary if no intervening annealing is done? Also, find the drawing force.	(10)	210			
b)	Explain about the different losses must be considered while calculating the stock size in case of forging.	(5)				
Q6 a)	Differentiate between compound die and progressive die.	(8)				
210 <b>b</b> )	What are the various types of strippers? Explain their functions with the help of suitable sketches.	(7)	210			
Q7 a)	Write the principle and need of location in a Jig or Fixture, Explain briefly different locating methods.	(10)				
b)	Describe the design principles of drilling Jigs.	(5)				
<b>Q8</b> 210 <b>a)</b>	Sketch a typical internal broach and its tooth shape. Explain in detail its different	(10)	210			
	elements and aspects to design the same.					
b)	Explain the basic rules for die design for Upset forging.	(5)				
Q9 a)	Design a single point cutting tool (HSS) for rough turning of C-20 steel. Sketch the standard tool shank and suggest suitable tool signature. Assume all data required.	(10)				
<sub>210</sub> b)	What is meant by tool layout of turret lathe?	(5)	210			