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QUESTION BANK

Subject with Code: Manufacturing Processes**(19ME0306)** **Course & Branch** **:** B. Tech - ME

Year &Sem **:** II-B. Tech & II-Sem **Regulation** **:** R19

UNIT –I

METAL CASTING PROCESSES

1	a)	List the main advantages and applications of the casting process.	L1	CO1	6M
	b)	What are the major limitations of the sand casting process and how are they overcome?	L2	CO1	6M
2	a)	Sketch the cross section of a sand mould which is ready for pouring, and label the various important parts.	L3,L1	CO1	6M
	b)	Briefly explain the procedure to be followed for making a sand mould.	L2	CO1	6M
3	a)	Distinguish clearly between the following: moulding sand, backing sand and facing sand.	L4	CO1	6M
	b)	Define pattern. Name the different types of patterns and pattern materials.	L1	CO1	6M
4	a)	Name the pattern allowances provided on the pattern for sand casting and state the reasons why they are provided.	L1	CO1	
	b)	What are the requirements of good moulding sand?	L2	CO1	6M
5	a)	Discuss the relative advantages and disadvantages of various types of furnaces used in foundry shops.	L2	CO1	6M
	b)	With neat sketch explain the construction and working of cupola furnace.	L3	CO1	6M
6		With neat sketch explain shell moulding process.	L2	CO1	12M
7		Explain the different types of moulding machines with neat sketch and its applications.	L2	CO1	12M
8	a)	With neat sketch explain die casting process	L2	CO1	6M
	b)	Distinguish hot die casting and cold die casting.	L2	CO1	6M
9	a)	With neat sketch explain centrifugal casting process	L2	CO1	6M
	b)	With neat sketch explain stir casting process.	L2	CO1	6M
10	a)	Describe the defects in casting?	L1	CO1	6M
	b)	What do you understand by cold cracks and warpage? What are the remedies for them?	L2	CO1	6M

UNIT – II

JOINING PROCESSES

1	a)	Explain the working of oxy acetylene gas welding	L2	CO2	6M
	b)	Distinguish three types of welding flames and for what applications these are used?	L2	CO2	6M
2	a)	Compare TIG and MIG welding processes.	L2	CO2	6M
	b)	Explain the classification of welding processes briefly.	L2	CO2	6M
3		Write short notes on submerged arc welding with neat sketch and write its applications.	L3	CO2	12M
4	a)	Explain the working of spot welding briefly.	L2	CO2	6M
	b)	Write short note :1) Seem welding 2) Projection welding	L2	CO2	6M
5	a)	Write short notes on Gas Tungsten Arc Welding (GTAW) and its advantages.	L2	CO2	6M
	b)	Write short notes on electro slag welding	L2	CO2	6M
6		With neat sketch explain Electron Beam Welding. Give its advantages and disadvantages.	L3	CO2	12M
7		Name the different types of solid state welding processes. With neat sketch discuss about friction welding.	L2	CO2	12M
8	a)	What are the common welding troubles; causes and remedies for them?	L3	CO2	6M
	b)	What is weld decay and how it can be prevented?	L2	CO2	6M
9	a)	Differentiate between the welding, brazing and soldering processes	L2	CO2	6M
	b)	What are the essential steps in brazing operation?	L2	CO2	6M
10	a)	Explain briefly how can be metals joined using adhesives	L2	CO2	6M
	b)	Write various fields of applications of adhesives	L2	CO2	6M

UNIT-III

METAL DEFORMATION PROCESS

1	a)	Explain hot working process with an example, its processes used	L2	CO3	6M
	b)	What are the applications and limitations of hot working processes?	L2	CO3	6M
2		Distinguish hot working and cold working processes in metal working.	L2	CO3	6M
3	a)	What is open, impression die forging? Give its processes	L2	CO3	6M
	b)	Discuss the advantages, disadvantages and applications of open, impression die forging.	L2	CO3	6M
4	a)	What are the characteristics of forging processes? Write Processes used?	L1	CO3	6M
	b)	What are the characteristics of wire drawing processes? Write Processes used?	L2	CO3	6M
5	a)	Name the different types of rolling process.	L2	CO3	6M
	b)	What are the advantages and disadvantages of rolling processes	L2	CO3	6M
6		Discuss about shape rolling operations and defects in rolled parts.	L2	CO3	12M
7		With neat sketch explain 1) rod and wire drawing 2) tube drawing.	L3	CO3	12M
8	a)	Discuss the principle of extrusion process.	L2	CO3	6M
	b)	Differentiate the hot and cold extrusion processes.	L3	CO3	6M
9	a)	With neat sketch explain magnetic pulse forming process.	L2	CO4	6M
	b)	Write short note on peen forming process.	L2	CO4	6M
10	a)	Discuss about super plastic forming.	L2	CO4	6M
	b)	Give the advantages, disadvantages and applications of micro forming process.	L2	CO4	6M

UNIT-IV

SHEET METAL WORKS

1	a)	What are the characteristics of sheet metal?	L1	CO5	6M
	b)	What are the types of shearing?	L1	CO5	6M
2	a)	Explain bending operations with suitable sketches.	L2	CO5	6M
	b)	Sketch& explain the Drawing operation	L2	CO5	6M
3	a)	Explain the Stretch forming operations &its applications.	L2	CO5	6M
	b)	Write the Formability of sheet metal characteristics	L3	CO5	6M
4		What is Metal spinning? Explain with neat sketch.	L1	CO5	12M
5	a)	Discuss about the advantages, disadvantages and applications of sheet metal processes.	L2	CO5	6M
	b)	Differentiate the formability and spinning process.	L3	CO5	6M
6		What are the production processes of metallic powders?	L2	CO5	12M
7		Discuss the mixing and blending methods of powders.	L2	CO5	12M
8		Write short note on 1) sintering 2) compacting.	L2	CO5	12M
9		What are the secondary finishing operations in powder metallurgy?	L2	CO5	12M
10	a)	What are advantages and disadvantages of powder metallurgy?	L1	CO5	6M
	b)	Give the application of powder metallurgy.	L2	CO5	6M

UNIT-5

MANUFACTURE OF PLASTIC COMPONENTS

1		Explain the working principles and application of compression Moulding.	L2	CO6	12M
2		Explain the working principles and application of Rotational Moulding	L2	CO6	12M
3		Explain the working principles and application of Injection Moulding	L2	CO6	12M
4	a)	Explain the structure of thermo plastic and thermosetting plastics.	L2	CO6	6M
	b)	Explain the polymerization briefly?	L2	CO6	6M
5		Explain the working principles and application of Transfer Moulding.	L2	CO6	12M
6		Explain the working principles and application of Blow Moulding.	L2	CO6	12M
7	a)	Explain the various methods of Bonding of Thermoplastics.	L2	CO6	6M
	b)	Differentiate thermo plastics and thermo settings.	L3	CO6	6M
8	a)	What are the major considerations in the design of plastic parts?	L1	CO6	6M
	b)	Explain briefly about calendaring with neat sketch	L2	CO6	6M
9		Write short note: 1) Film blowing 2) Extrusion process.	L2	CO6	12M
10	a)	State how joining and machining of plastics are carried out?	L3	CO6	6M
	b)	what are the foamed plastics and state how foaming is done	L1	CO6	6M