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QUESTION BANK (DESCRIPTIVE)

Subject with Code :MANUFACTURING PROCESSES (18ME0308) **Course & Branch**: B.Tech - ME
Year & Semester: II-B.Tech & II-Semester **Regulation:** R18

UNIT –I

METAL CASTING PROCESSES

1	a)	Describe the following types of sands: i)Green sand ii)Dry sand iii)Loam sand iv)Facing sand v)Backing sand vi)Parting sand	5M
	b)	What is gating ratio? What is the difference between pressurized and Unpressurised systems?	5M
2	a)	Describe CO_2 Process.	5M
	b)	With neat sketch explain investment casting process and give its Applications.	5M
3	a)	What do you understand by external hot tears? How they are caused?	5M
	b)	What do you understand by cold cracks and warp age? What are the Remedies for them?	
4	a)	Describe the defects in casting?	5M
	b)	Explain the various properties of moulding sand.	5M
5	a)	Sketch and explain different types of patterns used in foundry	5M
	b)	What are the different pattern allowances? Explain with neat sketch.	5M
6.		What are the requirements of good gating system? Draw a sketch of Gating system and explain the functions of various elements.	10M
7	a)	Discuss the relative advantages and disadvantages of various types of furnaces used in foundry shops.	5M
	b)	With neat sketch explain the construction and working of cupola furnace.	5M
8	a)	With neat sketch explain centrifugal casting process.	5M
	b)	With neat sketch explain stir casting process.	5M

9	a)	With neat sketch explain shell moulding process.	5M
	b)	With neat sketch explain die casting process.	5M
10	a)	What are the aims in making a casting	5M
	b)	What are the rules for satisfactory design to obtain the good castings?	5M

UNIT – II

JOINING PROCESSES

1	a)	What are the common welding troubles; causes and remedies for them? what are the qualities of flame used for welding? How can you	5M
	b)	Distinguish three types of welding flames and for what applications these are used?	5M
2	a)	Compare TIG and MIG welding processes	
	b)	What is thermite welding? What does a thermite mixture consist of and What reactions take place in thermite welding?	5M
3	a)	Write short notes on submerged arc welding and write its applications.	5M
	b)	Explain the working of oxy acetylene gas welding.	5M
4	a)	Write short note on Heat Affected Zone (HAZ) in welding.	5M
	b)	Explain the classification of welding processes briefly.	5M
5	a)	Explain the working of submerged Arc welding briefly.	5M
	b)	Write short notes on Gas Tungsten Arc Welding (GTAW) and its advantages.	5M
6	a)	What are the different fields of applications of welding process?	5M
	b)	Write short notes on Gas Tungsten Arc Welding (GMAW) and its advantages	5M
7	a)	Differentiate between the welding, brazing and soldering processes.	5M
	b)	What are the essential steps in brazing operation?	5M
8	a)	Write short notes on electro slag welding.	5M
		b) write a short notes on weld defects	5M
9		Explain Electron beam welding and its advantages with neat sketch	10
10		Explain Laser beam welding and its advantages with neat sketch	10

UNIT-III

METAL DEFORMATION PROCESS

1	a)	Explain hot working process with an example, its processes used	5M
	b)	Explain hot working process with, applications& limitations	5M
2	a)	Explain cold working process with en example, its processes used	5M
	b)	Explain cold working process with applications& limitations	5M
3	a)	What is open, impression die forging? Give its processes.	5M
	b)	What is open, impression die forging? Give its applications.	5M
4	a)	What is closed, impression die forging? Give its processes	5M
	b)	What is closed, impression die forging? Give its applications	5M
5	a)	What are the characteristics of forging processes? Write Processes Used?	5M
	b)	What are the characteristics of wire drawing processes? Write Processes used?	5M
6		What are the types of forging processes? write Processes used	10M
7	a)	What are the characteristics of rolling processes?	5M
	b)	What are the processes used in rolling processes	5M
8	a)	What are the advantages of rolling processes	5M
	b)	What are the examples of components produced in rolling processes	5M
9	a)	What is shape rolling process?	5M
	b)	What are the defects in rolled parts? How we can rectify the same?	5M
10	a)	What are the defects in forged parts? How we can rectify the same?	5M

UNIT-IV

SHEET METAL FORMING PROCEESSSES

1	a)	What are the characteristics of sheet metal?	5M
	b)	What are the types of shearing?	5M
2	a)	Explain Bending operations with a suitable sketches.	5M
	b)	Sketch& explain the Drawing operation.	5M
3	a)	Explain the Stretch forming operations &its applications.	5M
	b)	Write the Formability of sheet metal characteristics.	5M
4	a)	What is Metal pinning?&explain.	5M
	b)	Write short notes on Introduction of explosive forming with its applications.	5M
5	a)	Explain the Magnetic pulse forming operations.	5M
	b)	Write about Peen forming Operations &applications.	5M
6	a)	What is Super plastic forming &explain.	5M
	b)	Write detailed notes on Micro forming Operations.	5M
7	a)	Compare bending Vs Shearing operations & the tools used in each case.	5M
	b)	Differentiate drawing & Deep Drawing Operations.	5M
8	a)	Explain with sketches the deep drawing Operations.	5M
	b)	What are the types of presses used for drawing operations?	5M
9	a)	Classify the types of presses used in drawing operations.	5M
	b)	Classify materials used in punch, ram, die, die block in drawing work	5M

10 a) What are the tools used in Shearing, bending, forming, drawing operations? 5M

b) What explosives are used in explosive forming& how safety is ensured? 5M

UNIT-V

MANUFACTURE OF PLASTIC COMPONENTS

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

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TWO MARKS QUESTIONS WITH ANSWERS

UNIT –I

METAL CASTING PROCESS

1 State any four types of patterns.

2 Mention any two advantages and disadvantages of die casting.

3. Write the requirements of good pattern.

4.What is core venting?

5.What function of core ?

6.Which process is called lost waxing method? Why?

7.What is the function of core prints?

8.What are the advantages and applications of ceramic moulds?

9.What are the pattern materials?

10. Explain the term fettling.

11. What are the applications of casting?

12. Mention the specific advantages of Co2 moulding Process.

13. Define AFS grain- fineness number.

14. Classify moulding Machines.
15. what are the different types of furnaces used for casting.
16. State the main functions of tuyeres in cupola furnace.

UNIT – II
METAL JOINING PROCESS

1.List out any four arc welding equipment.
2.What are the special features of friction welding?
3.Define resistance welding process.
4.What is the purpose of flux?
5.How can slag inclusions in welding be avoided?
6.How does brazing differ from braze welding?
7.Why flux is coated on filler rods?
8.What is the application of carburizing flame?
9. What are the diameter and length of the electrodes available in the market?
10. Name the various methods of Resistance Welding
11. What is 'Brazing'
12. Mention the applications of friction welding.
13. Name the chemicals used in flux Manufacture.

UNIT III
METAL FORMING PROCESS

1 What are the four major drawbacks of hot working?
2 Classify the types of extrusion.
3 What is the difference between a bloom and a billet?
4 What is impact extrusion ?
5 Why are a number of passes required to roll a steel bar?
6 How are seamless tubes produced?
7 What is Sejournet process?
8 What is skew rolling ?
9 Explain the term Extrusion process.
10 What are the disadvantages of forging processes?
11. Define Impact extrusion.
12. What is meant by cold spinning.
13. Define Hot Spinning.
14. What is wire drawing.
15 What is meant by deep Drawing.

UNIT - IV
SHEET METAL PROCESS

1 What is punching operation ?
2 What is super plastic forming operation ?
3 What is press brake?
4 Define hydro forming process.
5 Give the difference between punching and blanking.
6 How is hydro forming is similar to rubber forming ?
7 What do you mean by minimum bend radius?
8 Define limiting drawing ratio.
9 Define Embossing.
10. Define Stretch forming.
11. Define Wrinkling

UNIT V

MANUFACTURING OF PLASTIC COMPONENTS

1 What are the characteristic of thermoplastics ?
2 List out the material for processing of plastics?
3. Name the parts made by rotational moulding.
4 What is parison ?
5 Define degree of polyenerization.
6 What is rotational mouldig of plastics?
7 What are the two types of polymerization.
8. List the advantage of cold forming of plastics?
9. What is film blowing?
10. What are the types of plastics ?