**DFT**  **EDUCATIONAL TRUST**

**QUESTIONS BANK**

**MANUFACTURING TECHNOLOGY – I**

**UNIT - I - METAL CASTING PROCESS**

**PART - A**

1. What are the pattern material?
2. state the application of sweep and skeleton pattern?
3. What is split pattern?
4. Write the requirements of a good pattern.
5. What are the factors that you will consider before selecting materials for pattern?
6. What is the function of core prints?
7. Name any four types of commonly used patterns
8. What is core venting?
9. State the properties of good moulding sand.
10. What is shell moulding? Give one example.
11. Explain the term fettling?
12. What are the advantages and applications of ceramic moulds?
13. Mention the need for using CO2 on mould preparation.?
14. List any four products manufactured by the centrifugal casting process .
15. Mention any two merits and demerits of die casting.
16. Give any two merits and demerits of investment casting process.
17. State any four properties of mounding sand?
18. Which type of furnaces are suitable for melting of ferrous material and why?
19. List the different types of patterns used in modern foundry.
20. Write a note on chilled casting?

**PART - B**

1. How is green sand mould prepared?
2. Describe the various materials used in pattern making. State the factors to be considered for selection of the pattern materials.
3. What are pattern allowances? Explain each in detail with a neat sketch.
4. Name the pattern allowances which can be quantitatively specified. Write brief note on each of them.
5. Give the step-wise procedure for Shell mould casting process.
6. Compare precision investment casting and shell moulding from the point of process, product and application.
7. Explain the different types of moulding sand and its corresponding application.
8. Explain CO2 process of core making. State its advantages. Limitations and applications.
9. compare the different types of furnaces, method of heating and main field of appilication.
10. Explain with the help of neat sketches, the various methods used for testing moulding sand.
11. Describe the operation of a Cupola furnace for melting cast iron?
12. Which properties are desirable for a moulding sands for sound casting? Explain.
13. What is meant by crucible furnace? What are their types? Explain any two in detail with a neat sketch.
14. What are the different types of furnance used in foundry? Describe in detail with neat sketches any one of them.
15. How does the electric arc furnace melt the metal? Explain direct arc furnace and compare with indirect arc furnace.
16. Explain investment casting with a neat sketch.

**UNIT - II - JOINING PROCESS**

**PART - A**

1. Define welding process.
2. List out any four arc welding processes.
3. What are the diameter and length of the electrodes available in the market?
4. What is the application of carburizing flame ?
5. What is the function of Tungsten in TIG welding?
6. State the functions of electrode coating.
7. Why is flux coated on filler rods?
8. How does brazing differ from braze welding?
9. What are the advantages of AC equipment over DC equipment in arc welding?
10. Why is flux used in soldering and brazing?
11. Differentiate fission welding from fusion welding?
12. Mention the application of friction welding.
13. With neat diagram explain the process of Resistance seam welding.
14. Define plasma arc welding.
15. Define brazing
16. Define soldering.
17. Give some filler metals and fluxes used in brazing
18. Define fusion welding.
19. List out the equipments used in arc welding.
20. Define adhesive bonding and its types.

**PART – B**

1. Describe the types of flames obtained in an oxy-acetylene gas welding process giving
2. Applications.
3. Explain the working principle of spot welding and seam welding processes.
4. (i) State the important functions of the flex Coatings of electrode used in manual metal arc welding process. ***(ii)*** What are the common problems encountered with the use of coated electrode?
5. Explain the TIG and MIG system of welding. Give the application of each.
6. With neat diagram explain the process of Resistance seam welding.
7. Illustrate the thermit welding process with neat sketch and also state its application
8. Explain the electron beam welding process with a neat sketch. What are its merits, limitation and applications?
9. Distinguish between soldering and brazing.
10. Explain the process of transfer arc an non transfer arc mode of operation in plasma arc welding with appilication.
11. Discuss the filler and flux materials using in Arc welding process.
12. With simple and neat sketches, explain the principle of operation of (i)MIG welding (ii) electro slag welding (iii) submerged arc welding
13. Discuss the sequence of operations in friction welding.
14. List out the different types of welding process. Briefly explain the working principle of any two welding process.(b) What is meant by welding defect? Explain any five welding defects.
15. Explain the stepwise procedure involved in flame cutting process.
16. Give the detailed comparison of

(i) AC and DC welding machines (ii) arc welding and gas welding.