

Faculty of Engineering & Technology
Fourth Semester B.E.(Aeronautical Engineering)
(C.B.S.) Examination
MANUFACTURING PROCESS-I

Time—Three Hours]

[Maximum Marks—80

INSTRUCTIONS TO CANDIDATES

- (1) All questions carry marks as indicated.
 - (2) Solve **SIX** questions as follows :
 - Q.No.1 OR Q.No.2
 - Q.No.3 OR Q.No.4
 - Q.No.5 OR Q.No.6
 - Q.No.7 OR Q.No.8
 - Q.No.9 OR Q.No.10
 - Q.No.11 OR Q.No.12
 - (3) Due credit will be given to neatness and adequate dimensions.
 - (4) Illustrate your answers with necessary figures/drawings wherever necessary.
 - (5) Use of drawing instruments is permitted.
 - (6) Assume suitable data wherever necessary.
1. (a) Which patterns are used for mass production of casting ? Why ? Also State the factors which govern the selection of proper material for pattern making.

- (b) What is Core ? What is Core Print ? Explain the various types of cores used in foundry practice. 7

OR

2. (a) What are the common allowances provided on the pattern and why ? Explain any two of them with neat sketch. 7
- (b) What are the various types of moulding sand ? Discuss their composition and characteristics. 6
3. (a) Explain with neat sketch Cupola furnace. Explain, why it is the most popular type remelting furnace ? 7
- (b) What are different types of casting defects ? Highlight their causes and suggest suitable remedies for it. 6

OR

4. (a) Explain with neat sketch centrifugal casting. Also discuss its advantages and disadvantages. 7
- (b) What do you mean by Investment Casting ? Explain with neat sketch. Also write the advantages and disadvantages of it. 6
5. (a) What is Extrusion ? Explain with neat sketch types of extrusion. 7
- (b) Explain with neat sketch different types of Rolling Mills. 7

OR

6. (a) Differentiate between cold forging and hot forging. What are the advantages and limitations of forging processes ? 7
- (b) Describe wire drawing with neat sketch. Highlight its advantages. 7
7. (a) Differentiate between TIG and MIG welding process. Describe any one of above process with neat sketch. 7
- (b) Explain with neat sketch oxyacetylene welding. Also state the different types of flames which are obtained in gas welding with neat sketch. 6

OR

8. (a) Explain spot welding and seam welding with neat sketch. Also discuss their advantages and disadvantages. 7
- (b) What are the different types of welding defects ? What are the causes of these defects ? Discuss how these defects can be decreased. 6
9. (a) Explain Powder Metallurgical Technique for the manufacturing of self lubricating bearing. 7
- (b) What is Composite Materials ? Discuss their types and characteristics. 6

OR

10. (a) Discuss various methods of powder manufacturing and conditioning in powder metallurgical techniques. 7
- (b) Explain the powder metallurgical process for the manufacturing of cemented carbide tools. 6
11. (a) Explain the process of Injection Moulding with neat sketch. Give one example. 7
- (b) Explain following with neat sketch :
- (i) Blow Moulding
- (ii) Calendering. 7

OR

12. (a) Explain the process of compression moulding with neat sketch. Give advantages and application of it. 7
- (b) What are various types of plastics ? Explain thermosetting and thermoplastics. Discuss their applications. 7