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INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

B.Tech III Semester End Examinations (Regular), February – 2021

Regulation: IARE–R18

MANUFACTURING PROCESS

Time: 3 Hours

(ME)

Max Marks: 70

Answer any Four Questions from Part A
Answer any Five Questions from Part B

PART – A

1. What are the desirable characteristics to be considered for preparing core in foundry shop? Explain. [5M]
2. Describe the principle of an oxy-fuel gas welding process. [5M]
3. Distinguish between wire drawing and tube drawing with sketches. [5M]
4. Differentiate between forward extrusion with backward extrusion. [5M]
5. Explain the various forging operations done in smithy shop. [5M]
6. Elucidate precision investment casting process. [5M]
7. How is a gas cutting torch different from welding torch? [5M]
8. Compare and contrast between the properties of hot working and cold working processes. [5M]

PART – B

9. Enlist the pattern allowances which can be quantitatively specified. Write a brief note on each of them. [10M]
10. Sketch the cross section of a sand mould which is ready for pouring and label the various important parts. [10M]
11. Explain the TIG and MIG systems of arc welding. Give the applications of each. [10M]
12. What are the defects that are generally found in welding? Describe their cause and remedies. [10M]
13. Describe the process of cold spinning stating its advantages and specific uses. [10M]
14. Write short notes on terms related to cold working of metals: blanking, swaging, lancing and embossing. [10M]
15. Explain the various branches of additive manufacturing operations with the help of flow chart. [10M]
16. With neat sketch explain the working principle of hydrostatic extrusion. [10M]
17. Describe some common forging defects. Also indicate remedial measures. [10M]
18. What are the various types of forging methods available to a manufacturing engineer? Explain the application of each of them. [10M]