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18MT44

Fourth Semester B.E. Degree Examination, June/July 2024
Manufacturing Technology

Time: 3 hrs.   Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1   a. With explanation write the classification of manufacturing process.   **(10 Marks)**
    b. Explain the steps involved in casting process.   **(10 Marks)**

OR

2   a. Draw a neat sketch of gating system. Explain all the elements and their functions.
                                                                                                (10 Marks)
    b. Explain the properties of base sand.   **(10 Marks)**

Module-2

3   a. Write classification of metal working process and list the advantages and limitations of metal working processes.   **(10 Marks)**
    b. Explain the parameters to be considered during die design in forging.   **(10 Marks)**

OR

4   a. Explain different types of rolling mills with suitable diagram.   **(10 Marks)**
    b. Write and explain with the neat sketch lever spring hammer and gravity drop hammers in forging process.   **(10 Marks)**

Module-3

5   a. Define extrution with a neat sketch explain direct and indirect extrution.   **(10 Marks)**
    b. Explain compound dies and progressive dies process with suitable diagrams.   **(10 Marks)**

OR

6   a. Explain influence of the process parameters in submerged arc welding process. Mention its advantages and disadvantages.   **(10 Marks)**
    b. Explain with neat sketch MIG welding mention its applications.   **(10 Marks)**

Module-4

7   a. Briefly explain Abrasive Jet Machining with a neat sketch.   **(10 Marks)**
    b. Illustrate with a neat sketch Laser Beam Machining and its applications.   **(10 Marks)**

OR

8   a. Explain the difference between traditional and non-traditional machining.   **(10 Marks)**
    b. With a neat sketch, explain the arrangement and principle of operation of water jet machining process.   **(10 Marks)**

Module-5

9   a. List different types of CNC machining centers and explain working of two machining centers.   **(10 Marks)**
    b. Briefly explain the principle of CNC for machine tools, also mention its applications.
                                                                                                (10 Marks)

OR

10 a. Explain the steps involved in CNC part programming.   **(10 Marks)**
    b. Write a short note on:
        i)   Turning tool geometry
        ii)   Rake angle and clearance angle for cutting tools.   **(10 Marks)**

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