

CBCS SCHEME

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BMR302

Third Semester B.E./B.Tech. Degree Examination, June/July 2024

Manufacturing Processes

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.

2. M : Marks , L: Bloom's level , C: Course outcomes.

| Module – 1 | | | | M | L | C |
|------------|----|---|----|----|-----|---|
| Q.1 | a. | With a neat sketch, briefly explain the different steps involved in shell moulding processes and mention its advantages and disadvantages. | 10 | L2 | CO1 | |
| | b. | What are the desirable properties of a moulding sand? | 5 | L1 | CO1 | |
| | c. | What are the different allowances given on a pattern? | 5 | L1 | CO1 | |
| OR | | | | | | |
| Q.2 | a. | What are the steps involved in investment costing? Explain briefly with neat sketch. | 10 | L2 | CO1 | |
| | b. | With a neat sketch, briefly explain the design of costing. | 4 | L2 | CO1 | |
| | c. | What are the casting defects? Explain any two. | 6 | L2 | CO1 | |
| Module – 2 | | | | | | |
| Q.3 | a. | Explain the following welding processes with necessary sketches and their field of applications : i) Oxy – Acetylene welding ii) Submerged Arc welding. | 12 | L2 | CO1 | |
| | b. | What is Welding processes? What are the advantages of welding over other manufacturing processes? List the industrial applications of welding. | 8 | L1 | CO1 | |
| OR | | | | | | |
| Q.4 | a. | Explain the different welding defects and also give causes and remedies. | 10 | L2 | CO1 | |
| | b. | With a sketch, explain the laser welding process. Mention advantages and limitations of laser welding, also give applications. | 10 | L2 | CO1 | |
| Module – 3 | | | | | | |
| Q.5 | a. | Explain the following drilling operation : i) Counter sinking ii) Reaming iii) Tapping iv) Counter boring v) Boring. | 10 | L2 | CO3 | |
| | b. | Explain the classification and principle of working of lathe with the help of a neat sketch. | 10 | L2 | CO3 | |
| OR | | | | | | |
| Q.6 | a. | What are the different types of Planning Machines? | 5 | L1 | CO3 | |
| | b. | What are the basic elements of Milling Machine? Explain their functions. | 10 | L2 | CO3 | |

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|-------------------|----|---|----|----|-----|
| | c. | What are the advantages and disadvantages of Shaping Machine? | 5 | L2 | CO3 |
| Module – 4 | | | | | |
| Q.7 | a. | Classify tube drawing and explain with a neat sketch, tube drawing with a moving mandrel. | 10 | L2 | CO3 |
| | b. | Differentiate between Cold working and Hot working processes. | 10 | L2 | CO3 |
| OR | | | | | |
| Q.8 | a. | Explain with a neat sketch, various form of Punching. | 10 | L2 | CO3 |
| | b. | What is 3D printing? Explain the general principles. | 10 | L2 | CO4 |
| Module – 5 | | | | | |
| Q.9 | a. | Explain Lapping and Honing process, with a neat diagram. | 10 | L2 | CO4 |
| | b. | With a neat sketch, explain the specification of Grinding machine. | 10 | L2 | CO4 |
| OR | | | | | |
| Q.10 | a. | Explain with a neat sketch, Electro chemical machining process. | 10 | L2 | CO4 |
| | b. | Explain with a neat sketch, Water Jet Machining process. | 10 | L2 | CO4 |

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