

BMR306A

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

CBCS SCHEME

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. | What are the industrial needs for Non-Traditional machining? | 10 | L1 | CO1 |
| | b. | How the Non-Traditional machining processes are classified? Explain. | 10 | L2 | CO2 |
| | | OR OR | | | |
| Q.2 | a. | List the applications of Ultrasonic machining. | 10 | L1 | CO1 |
| | b. | With a neat sketch, explain the working principle of USM. | 10 | L2 | CO2 |
| | | Module – 2 | | | |
| Q.3 | a. | List the applications and limitations of Abrasive Jet machining. | 10 | L1 | C01 |
| | b. | How do the operating parameters affect the machining process in AJM process? Explain. | 10 | L2 | CO2 |
| | | OR OR | | | |
| Q.4 | a. | List the advantages, disadvantages and applications of electro chemical machining. | 10 | L1 | CO1 |
| | b. | Explain the dynamics of ECM process. | 10 | L2 | CO2 |
| | | Module – 3 | | | |
| Q.5 | a. | With a neat sketch, explain working principle of chemical machining. | 10 | L2 | CO3 |
| | b. | Identify the sequence of operation in photo-chemical milling explain. | 10 | L3 | CO4 |
| | A | OR | | | I |
| Q.6 | a. | Explain the working principle of plasma Arc machining process. | 10 | L2 | CO3 |
| | b. | Analyze the parameters affecting the cutting processing in PAM. | 10 | L3 | CO4 |
| | | Module – 4 | | | |
| Q.7 | a. | Explain the operating principles of EDM process. | 10 | L2 | CO3 |
| | b. | Identify the different types of flushing and explain the pressure flushing. | 10 | L3 | CO4 |
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| b. Identify the special characteristics of laser beam and discuss. 10 L3 CO Module – 5 Q.9 a. Choose various hole drilling and surface machining capabilities of electron beam and explain. 10 L3 CO b. Analyze the current control in EBM process. 10 L4 CO OR Q.10 a. Select the various processes for hybrid machining and give the importance. 10 L3 CO | | | | | | |
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| Q.8 a. Explain the machining applications of laser. I < | | | OR | 10 | 12 | CO |
| b. Identify the special characteristics of laser beam and discuss. 10 L3 CC Module – 5 Q.9 a. Choose various hole drilling and surface machining capabilities of electron beam and explain. 10 L3 CC b. Analyze the current control in EBM process. 10 L4 CC OR Q.10 a. Select the various processes for hybrid machining and give the importance. 10 L3 CC VOR ***** | Q.8 | a. | Explain the machining applications of laser. | 10 | | |
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| Q.10 a. Select the various processes for hybrid machining and give the importance. 10 L3 C b. Inference the details of electrochemical discharge machining. 10 L4 C ***** | | b. | Analyze the current control in EBM process. | 10 | 1.7 | |
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| b. Inference the details of electrochemical discharge machining. 10 L4 Control of the second | 0.10 | 9 | Select the various processes for hybrid machining and give the importance. | 10 | L3 | CC |
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