



B.E DEGREE EXAMINATIONS: NOV/DEC 2022

(Regulation 2018)

Fifth Semester

MECHATRONICS ENGINEERING

U18MCI5202: Manufacturing Technology

COURSE OUTCOMES

- CO1:** Select and justify appropriate casting methods
CO2: Summarize various bulk deformation processes and the explain the working machineries
CO3: Describe the working principles of machines and various machining processes
CO4: Choose a suitable metal joining process for a given application

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 2 = 20 Marks)

(Answer not more than 40 words)

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| 1. List any two purposes of providing pattern allowance. | CO1 | [K ₂] |
| 2. When do you prefer induction furnace to melt the material. | CO1 | [K ₂] |
| 3. Write any three casting defects along with cause and remedies. | CO1 | [K ₂] |
| 4. Write a short notes on the thread rolling process with neat sketch. | CO2 | [K ₂] |
| 5. Distinguish hydrostatic extrusion process and conventional extrusion process. | CO2 | [K ₂] |
| 6. Draw any two operation that can be performed in drilling machine. | CO3 | [K ₂] |
| 7. How do you specify the lathe machine? | CO3 | [K ₂] |
| 8. Classify the welding process. | CO4 | [K ₂] |
| 9. Write a short notes on the brazing process with its application. | CO4 | [K ₂] |
| 10. Draw three types of flames in gas welding process. | CO4 | [K ₂] |

Answer any FIVE Questions:-

PART B (5 x 16 = 80 Marks)

(Answer not more than 400 words)

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| 11. a) Draw and explain the cold chamber die casting process along with its application. | 10 | CO1 | [K ₂] |
| b) When do you select investment casting process? Draw the sequence process in investment casting process. | 06 | CO1 | [K ₂] |
| 12. a) Discuss the working principles of rolling process with neat sketch. | 10 | CO2 | [K ₂] |
| b) Differentiate open die forging with closed die forging. | 06 | CO2 | [K ₂] |
| 13. a) Explain the different types of operation that can be performed in lathe. | 10 | CO3 | [K ₂] |
| b) Draw the radial drilling machine. | 06 | CO3 | [K ₂] |
| 14. a) Explain the principle of gas welding process with neat sketch. | 10 | CO4 | [K ₂] |
| b) Draw the friction welding process with its application. | 06 | CO4 | [K ₂] |

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| 15. | a) | Illustrate cupola furnace with its advantages. | 08 | CO1 | [K ₂] |
| | b) | List the types of drawing process. Brief any two with neat sketch. | 08 | CO2 | [K ₂] |
| 16. | a) | Describe the metal removing process and brief on the types of chips that may occur during metal removing process with neat sketch. | 08 | CO3 | [K ₂] |
| | b) | Discuss the working principles of soldering. | 08 | CO4 | [K ₂] |
