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 **PRESIDENCY UNIVERSITY**

  **Bengaluru**

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| **End - Term Examinations JANUARY–2025** |
| **Date:** 10 – 01- 2025 **Time:** 09:30 am – 12:30 pm |

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| **School:** SOE | **Program:** B. Tech-MEC/MCM |
| **Course Code:** MEC4005 | **Course Name:** Production Techniques-II |
| **Semester**: V | **Max Marks**: 100 | **Weightage**:50% |

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| --- | --- | --- | --- | --- |
| **CO - Levels** | **CO1** | **CO2** | **CO3** | **CO4** |
| **Marks** | **26** | **24** | **26** | **24** |

**Instructions:**

1. *Read all questions carefully and answer accordingly.*
2. *Do not write anything on the question paper other than roll number.*

**Part A**

|  |
| --- |
| **Answer ALL the Questions. Each question carries 2marks. 2Mx10Q=20M** |
| **1** | Give example of multi point cutting tool. | **2 Marks** | **L1** | **CO1** |
| **2** | What is positive rake angle? | **2 Marks** | **L1** | **CO1** |
| **3** | What is diffusion wear in metal cutting? | **2 Marks** | **L1** | **CO1** |
| **4** | What’s the function of Carriage? | **2 Marks** | **L1** | **CO2** |
| **5** | What are the parts of turret lathe machine ? | **2 Marks** | **L1** | **CO2** |
| **6** | Give examples of natural abrasives used in grinding. | **2 Marks** | **L1** | **CO3** |
| **7** | What is loading of grinding wheel? | **2 Marks** | **L1** | **CO3** |
| **8** | What is centerless grinding? | **2 Marks** | **L1** | **CO3** |
| **9** | What is Computer Numerical Control Machine (CNC)? | **2 Marks** | **L1** | **CO4** |
| **10** | What are the types of CNC codes? | **2 Marks** | **L1** | **CO4** |

**Part B**

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| --- |
| **Answer ALL Questions. Each question carries 20 marks. 4QX20M=80M** |
| **11** | **11a** | With simple sketch describe the nomenclature of single point cutting tool. | **10 Marks** | **L2** | **CO1** |
| **11b** | Explain any two types of cutting fluids used in cutting operations. | **5 Marks** | **L2** | **CO1** |
|  | **11C** | List out the cutting tool materials used to cut the ferrous materials. | **5 Marks** | **L2** | **CO1** |
| **Or** |
| **12** | **12a** | Explain continuous, discontinuous chip and continuous chip with build-up edges chip formation | **10 Marks** | **L2** | **CO1** |
| **12b** | Draw the diagram of tool life criteria labelling all parts | **5Marks** | **L2** | **CO1** |
|  | **12c** | List out the important properties of cutting fluids used in cutting operations. | **5Marks** | **L2** | **CO1** |
|  |  |  |  |  |  |
| **13** | **13a** | With simple sketch explain the parts of capstan lathe machine | **10Marks** | **L2** | **CO2** |
| **13b** | Explain any two work holding devices used in machine. | **5 Marks** | **L2** | **CO2** |
| **13c** | Write a short note on speed lathe machine | **5 Marks** | **L2** | **CO2** |
| **Or** |
| **14** | **14a** | What are the specifications of lathe machine and list out the operation that can be carried out in lathe machine? | **10Marks** | **L2** | **CO2** |
| **14b** | Briefly explain counter boring and reaming operation in drilling machine. | **5Marks** | **L2** | **CO2** |
|  | **14c** | Write a short note Engine lathe machine. | **5Marks** | **L2** | **CO2** |
|  |  |  |  |  |  |
| **15** | **15a** | Explain the different parts of shaper machine with simple sketch. | **10 Marks** | **L2** | **CO3** |
| **15b** | What are the specification of Planer machine | **5 Marks** | **L2** | **CO3** |
|  | **15c** | What are the advantages of centerless grinding machine | **5 Marks** | **L2** | **CO3** |
| **Or** |
| **16** | **16a** | With simple sketch explain the centerless grinding machine with its limitations | **10 Marks** | **L2** | **CO3** |
| **16b** | Write a short note on mechanism of shaper used in shaper machine. | **5 Marks** | **L2** | **CO3** |
|  | **16c** | Explain the desirable properties of abrasives material. | **5 Marks** | **L2** | **CO3** |
|  |  |  |  |  |  |
| **17** | **17a** | Write the programme in **absolute system** for the diagram given below for face milling operation with diameter of milling cutter tool as 100 mm, spindle speed 750 rpm, feed is 5mm/min and depth of cut is 3mm. All the dimensions are in mm as mentioned in the fig | **15 Marks** | **L3** | **CO4** |
| **17b** | What the features of CNC machine. | **5 Marks** | **L2** | **CO4** |
| **Or** |
| **18** | **18a** | Write the programme in **Incremental system** for the diagram given below for face milling operation with diameter of milling cutter tool as 100 mm, spindle speed 500 rpm, feed is 5mm/min and depth of cut is 5mm. All the dimensions are in mm as mentioned in the fig | **15****Marks** | **L3** | **CO4** |
| **18b** | Write short note on motion control system. | **5 Marks** | **L2** | **CO4** |

**\*\*\*\*\* BEST WISHES \*\*\*\*\***