Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov/Dec – 2018**

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| **Code :** | **18ME3011** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ADVANCED METAL CUTTING THEORY** | **Max. marks :** | **100** |

**ANSWER ANY FIVE QUESTIONS (5 x 16 = 80 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | During Turning a mild steel component with an orthogonal tool a feed of 0.25mm/rev is used at 50 rpm. The thickness of the chip removed is 0.5mm, determine the chip thickness ratio. Also find the length of chip removed in one minute, if the work Diameter is 50mm before the cut is taken. Assume a continuous chip. | CO1 | 10 |
| b. | Differentiate orthogonal and oblique cutting with neat sketch. | CO1 | 10 |
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| 2. |  | Draw and explain the nomenclature of milling tool with neat sketch. | CO2 | 20 |
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| 3. |  | What are all the factors Influencing the cutting Temperature? Explain it with required Data. | CO3 | 20 |
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| 4. | a. | Define Tool Life. Explain it with Taylor’s Tool Life equation. | CO4 | 10 |
| b. | A tool life of 80 mins. is obtained at a speed of 30mpm and 8 minutes at 60mpm. Determine the (i) Tool life equation (ii) cutting speed for 4 mins. Tool life. | CO4 | 10 |
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| 5. |  | Why we have to measure the cutting force during Machining? List out the Reasons with required sketch. | CO5 | 20 |
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| 6. |  | Discuss the classification cutting process with suitable sketch. | CO1 | 20 |
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| 7. |  | Explain the various methods of measuring cutting temperature in metal cutting. | CO3 | 20 |
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| **COMPULSORY QUESTION (1 x 20 = 20 Marks)** | | | | |
| 8. |  | Explain the term “Chatter” with suitable sketch and with required data. | CO6 | 20 |