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



**End Semester Examination – Nov / Dec – 2019**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Code :** | **18ME3010** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ADVANCED MANUFACTURING PROCESSES** | **Max. Marks :** | **100** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course Outcome** | **Marks** |
| **ANSWER ANY FIVE QUESTIONS (5 x 16 = 80 Marks)** | | | | |
| 1. | a. | Classify the basic manufacturing processes in engineering industries with a neat sketch. Give examples for each classification. | CO1 | 8 |
| b. | List the special casting processes, its applications, advantages and disadvantages. | CO1 | 8 |
|  |  |  |  |  |
| 2. |  | Explain spinning process with a neat sketch. Compare Shear spinning and flow forming. | CO2 | 16 |
|  |  |  |  |  |
| 3. | a. | Classify the various high energy rate forming processes and explain the electromagnetic forming technique with a neat sketch. | CO3 | 8 |
| b. | Quote the advantages, limitations, process parameters and applications of the energy rate forming processes. | CO3 | 8 |
|  |  |  |  |  |
| 4. | a. | Illustrate the Laser beam machining with a neat sketch. List the advantages, limitations and applications. | CO4 | 8 |
| b. | Explain the wire cut EDM machining dressing with a neat sketch. List the advantages, limitations and applications. | CO4 | 8 |
|  |  |  |  |  |
| 5. |  | Illustrate the Surface Mount Technology with a neat sketch. List the advantages, limitations and applications. | CO5 | 16 |
|  |  |  |  |  |
| 6. | a. | Illustrate the characteristics of a riser. Mention the factors that are to be considered while designing a riser. Explain with suitable sketches. | CO1 | 8 |
| b. | Cite the casting defects, their causes and remedies. | CO2 | 8 |
|  |  |  |  |  |
| 7. |  | Describe the types of forging die used in hot and cold forging techniques and explain the construction, working and applications. | CO3 | 16 |
| **COMPULSORY QUESTION (1 x 20 = 20 Marks)** | | | | |
| 8. | a. | Sketch a FSW tool nomenclature and cite the rules followed during a FSW tool design. | CO6 | 10 |
| b. | Sketch a FSW weld nugget macrostrucutre and explain the various zones in the weld nugget. | CO6 | 10 |