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

G:\logo and QP Template\logo 3 Feb 2018 final.tif

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

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Code :** | **14ME2045** | **Duration :** | **3hrs** |
| **Sub. Name :** | **RAPID PROTOTYPING AND TOOLING** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Classify the different types of rapid prototyping processes. | CO1 | 10 |
| b. | Explain Product development cycle with neat sketch. | CO1 | 10 |
| (OR) | | | | |
| 2. | a. | Describe with neat sketch, the principle and applications of stereolithography (SLA). | CO1 | 12 |
| b. | List out the applications of rapid prototyping processes. | CO1 | 8 |
|  |  |  |  |  |
| 3. | a. | Compile the construction and working of solid creation system (SCS) with neat sketch. Mention its advantages, disadvantages and applications. | CO1 | 14 |
| b. | Infer the applications of bioplotter. | CO1 | 6 |
| (OR) | | | | |
| 4. | a. | Demonstrate the applications of micro fabrication technology. | CO2 | 6 |
| b. | Appraise the construction and working principle of rapid freeze prototyping (RFP) with neat sketch. Outline its advantages, disadvantages and applications. | CO2 | 14 |
|  |  |  |  |  |
| 5. |  | Discuss the construction and working of laminated object manufacturing (LOM) with neat sketch. Mention its advantages, disadvantages and applications. | CO1 | 20 |
| (OR) | | | | |
| 6. |  | Describe the construction and working of Fused Deposition Modelling (FDM) with neat sketch. List its advantages, disadvantages and applications. | CO2 | 20 |
|  |  |  |  |  |
| 7. |  | Illustrate in detail, Rapid tooling with two case studies. List out its applications. | CO1 | 20 |
| (OR) | | | | |
| 8. |  | Assess the reverse engineering applications in rapid prototyping with suitable case studies. | CO1 | 20 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | Evaluate the construction and working principle of 3D printing with neat sketch. List out its applications, advantages and limitations | CO2 | 20 |