

B.E. (Mechanical), 5th Semester, 2nd Sessional
MEC-502 : Computer Aided Design and Manufacturing

Time allowed: - 1.5 hours

Max. Marks: 30

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| 1 | d) Mention the need for parametric representation of surfaces? Explain plane surface and tabulated surface with suitable examples. Write their parametric equations also. | 4 |
| | e) Explain the concept of check surface, drive surface and part surface used in APT with neat sketch. | 3 |
| | f) Describe various types of motion control system in NC. | 3 |

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| 2 | c) Generate CSG tree for the part shown in figure 1 which is generated using CSG approach. Make suitable assumptions. | 5 |
| | d) Write the Euler's rule for topological checking used in B-Rep. Find the number of vertices for the solid as shown in the figure 2, using Euler's Formula. | 5 |

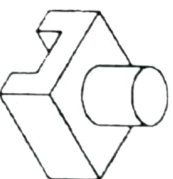


Figure 1



Figure 2

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| 3 | Three holes of 12.5 mm diameter are to be drilled at three places in the plate as shown. The speed and feed rate are 850 rpm and 140 mm/min respectively. The thickness of plate is 15 mm. Write the part program for drilling these holes : | 10 |
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