SET - 1

# Sanjay Ghodawat University, Kolhapur

2017-18

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017

**FY M. Tech** | **School of Technology** | **Semester II**

**MDM 502** | **Automation & Robotics** | **Max Marks: 100**

**21 May 2018** | **End Semester Examination (ESE)** | **Time: 3 Hrs.**

10.30 to 1.30 pm

**Instructions for Students**: 1) Use of non-programmable calculator is allowed
2)All questions are compulsory

| | | | Marks | COs |
|---|---|---|---|---|
| **Q1** | | Write Short Note | | |
| | a) | Transfer mechanisms | 06 | 502.1 |
| | b) | Storage Buffers | 06 | 502.1 |
| | c) | Low Cost Automation | 06 | 502.1 |
| **Q2** | a) | Types and configurations of Assembly Automation | 08 | 502.2 |
| | b) | Describe Product design for automated assembly. | 08 | 502.2 |
| **Q3** | a) | Explain position, velocity sensors, tactile sensors, proximity and range sensors | 08 | 502.3 |
| | b) | Explain Hydraulic and Pneumatic actuators, electrical drives for robots | 08 | 502.3 |
| **Q4** | a) | Explain reverse transformations | 09 | 502.4 |
| | b) | Explain homogeneous transformations | 09 | 502.4 |
| **Q5** | a) | Explain Programming for Robots with Methods<br>Or | 08 | 502.5 |
| | b) | Explain robot program as a path in space | 08 | 502.5 |
| | c) | Explain motion interpolation | 08 | 502.5 |
| Q6 | a) | Explain application of Robotics in manufacturing | 08 | 502.6 |
| | b) | Explain robotic cell design and control | 08 | 502.6 |

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