

**B.Tech. – VIEP – MECHANICAL ENGINEERING
(BTMEVI)**

Term-End Examination

June, 2016

00076

BIMEE-016 : ROBOTICS

Time : 3 hours

Maximum Marks : 70

Note : Attempt any five questions. All questions carry equal marks.

1. (a) What is a Robot ? How can it be classified ?
Give its specifications. 7
- (b) Write the various industrial applications of a robot. 7
2. (a) Write the basic components of a robot connected to a manufacturing system with the help of a neat sketch. 7
- (b) Explain the performance and characteristics of industrial robots with suitable examples. 7
3. (a) Describe the feedback control systems used in robotic automation environment. 7
- (b) Explain the working of hydraulic control systems in robots with a neat sketch. 7

4. (a) Explain the machine vision system of a robot with a neat sketch. 7
- (b) Describe various AI systems used in robotics. 7
5. (a) Explain how robotic programming is done using high level language. 7
- (b) Explain the various safety monitoring in industrial robots. 7
6. (a) Explain the various kinds of sensors used in robotics. 7
- (b) Explain the various drive methods used for robot gripper system. 7
7. Explain the following in detail : $2 \times 7 = 14$
- (a) Pneumatic Drive
- (b) Safety Measurement
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