

**BACHELOR OF TECHNOLOGY (C.B.C.S.) (2014 COURSE)**  
**B.Tech.Sem - VII ELECTRICAL : WINTER- 2022**  
**SUBJECT : ROBOTIC TECHNOLOGIES & APPLICATIONS**

Day : Thursday

Time : 02:30 PM-05:30 PM

Date : 15-12-2022

**W-13340-2022**

Max. Marks : 60

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N.B.:

- 1) All questions are **COMPULSORY**.
  - 2) Figures to the right indicate **FULL** marks.
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**Q.1** Explicate various applications of robots in industrial, agricultural and municipal sector. **(10)**

**OR**

Classify robots in detail according to uses.

**Q.2** Elucidate various performance features of robots **(10)**

**OR**

Write a note on various types of joints and links used in robotic system

**Q.3** Elucidate Kane's method for robotic arm dynamics. **(10)**

**OR**

Write a note on D – H convention in robotics.

**Q.4** Explicate various manipulators used in robotics with pertinent sketch. **(10)**

**OR**

Enlighten sliding mode control in robotics.

**Q.5** Illuminate hydraulic actuators used in robotics with related sketch. **(10)**

**OR**

Give details of servo motor drives used in robots with applicable block diagram.

**Q.6** What are various techniques of image acquisition utilized in robotic system **(10)**

**OR**

Give details of obstacle avoidance robots with details of various sensors used in it.

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