

Seat No. **MAR_APR 2025 SUMMER EXAMINATION****11731 Bachelor of Technology (NEP-2.0)****Sub. Name: Industrial Automation & Robotics****Sub. Code: 68518/84853/84960/84961****Day and Date: MAY ,26-05-2025****Total Marks: 70****Time: 10:30 AM To 01:00 PM**

- Instructions:**
- 1. All questions are compulsory**
 - 2. Assume suitable data wherever necessary and mention it boldly**
 - 3. Draw neat labelled diagrams wherever necessary**
 - 4. Figures to the right indicate full marks**

- Q1) Solve any one** [7]
- a. What is the need to invest in industrial Automation [7]
 - b. What is flexible automation? What are its features? [7]
- Q2) Solve any two** [14]
- a. Describe the interrupt system in computer process control. [7]
 - b. Write short note on analysis of transfer line with storage buffer. [7]
 - c. What is industrial control system? Explain in brief. [7]
- Q3) Solve any two** [14]
- a. Explain the concept of product design for automated assembly. [7]
 - b. What are the hardware components of a workstation part delivery system? [7]
 - c. What are the reasons of the existence of partially automated production line? [7]
- Q4) Solve any one** [7]
- a. Which are the qualities that make industrial robot commercially and technologically important? Explain in brief. [7]
 - b. Which are the types of joints in industrial robots? Explain in brief. [7]
- Q5) Solve any two** [14]
- a. Describe tactile sensors, proximity and range sensors. [7]

- b. Explain in detail force and torque sensors [7]
- c. Explain the factors to be considered in design and selection of gripper.(7) [7]

Q6) Solve any two [14]

- a. Explain in brief VAL II. [7]
- b. Elaborate in Detail Industrial Robot application. [7]
- c. Explain the application of robot in Assembly and Inspection. [7]

End Of Question Paper

Important Note for Chief Exam Officer / SRPD Coordinator / Sr Supervisor/ Student -

This Question Paper may be distributed for following Subjects as common code.

सदरची प्रश्नपत्रिका खालील विषयांकरिता वितरित करता येईल.

- 1] (101) Bachelor of Engineering (84960) Industrial Automation & Robotics Part 4 SEM 8
- 2] (101) Bachelor of Engineering (84961) Cryogenics Part 4 SEM 8
- 3] (1154) B.Tech. CBCS (84853) Industrial Automation & Robotics Part 4 SEM 8
- 4] (101) Bachelor of Engineering (68518) Industrial Automation and Robotics Part 4 SEM 8