

--	--	--	--	--	--	--	--	--	--

## Fifth Semester B.Tech. Degree Examination, Jan./Feb. 2023

### Robot Programming

Time: 3 hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

#### Module-1

- 1 a. Explain in detail, the coordinate systems used in Robots. (10 Marks)
- b. With an example, explain Robot Flow chart. (10 Marks)

OR

- 2 a. Explain the SUB Routines. (10 Marks)
- b. Explain the position control in robot programming. (10 Marks)

#### Module-2

- 3 a. Define programming and briefly explain the ONLINE method of programming. (10 Marks)
- b. Discuss the WAIT, SIGNAL and DELAY commands. (10 Marks)

OR

- 4 a. Along with advantages, explain OFFLINE method of programming. (10 Marks)
- b. Explain Manual Lead through method. (10 Marks)

#### Module-3

- 5 a. What are the First and Second generation Robot languages? (10 Marks)
- b. Explain the END Effector and Sensor commands. (10 Marks)

OR

- 6 a. Explain the structure of Robot program. (10 Marks)
- b. Briefly explain communication and Data processing in robot language. (10 Marks)

#### Module-4

- 7 a. Explain Monitor Commands in VALII. (10 Marks)
- b. Explain Interlock Commands. (10 Marks)

OR

- 8 a. Explain Hand Control in VALII (10 Marks)
- b. Explain INPUT/OUTPUT controls (10 Marks)

#### Module-5

- 9 a. What are AML statements? (10 Marks)
- b. Explain Grip Sensing capabilities. (10 Marks)

OR

- 10 a. What are program control statements? (10 Marks)
- b. Write an AML program for PEG IN A HOLE. (10 Marks)