PRAGATI ENGINEERING COLLEGE

(Autonomous)

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(Approved by AICTE, Permanently Affiliated to JNTUK, Kakinada)
(Recognized by UGC Under Sections 2(f) and 12 (B) of UGC act, 1956)
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ROBOTICS CLUB

Date: 03-06-2024

CIRCULAR

It is to inform to all the students of B.Tech I, II and III Year that the college Robotics Club of Department of ME is conducting an Online Quiz on Industrial Automation on 05-06-2024. Interested students can participate through the link provided below.
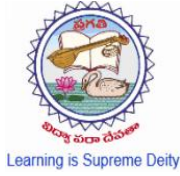
Mode : Online through Google Sheets
Link : https://forms.gle/ECJcpg444eKfid4T6

Faculty Coordinator

Copy to:
1) Circulate among students and staff
2) Department Notice Board
3) Department File
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ROBOTICS CLUB

Date: 06-06-2024

REPORT ON
ROBOTICS CLUB EVENT **ONLINE QUIZ** ON **INDUSTRIAL AUTOMATION**

As part of the Industry 4.0 Clubs, the Robotics Club of Pragati Engineering College conducted an Online Quiz on **Industrial Automation** on 05-06-2024. A total of 78 students of B.Tech I, II and III Year have participated in the Quiz.

The quiz aimed to test participants' understanding of the importance of Industrial Automation and also the components used in it. The quiz was conducted online using google forms where participants allowed to answer a series of multiple-choice questions within a specified time limit. The questions were carefully designed to cover a broad range of topics related to the Automation and its components. Participants were tested on their understanding of the basic concepts. Questions focused on the significance of automation in modern industries and the integration of robotic systems in everyday life.

The online quiz was conducted for a duration of 30 minutes. Participants were required to answer 25 multiple-choice questions within the given time frame. Each correct answer was awarded one point, and there was no negative marking for incorrect responses.

Faculty Coordinator

An Online Quiz on INDUSTRIAL AUTOMATION

The Robotics Club of
Pragati Engineering College conducting an Online Quiz on **Industrial Automation** in on 05-06-2024 for the students
of I, II and III Year.

* Indicates required question

1. Email *

   _____

2. NAME OF THE STUDENT *

   _____

3. ROLL NUMBER *

   _____

4. BRANCH *

   _____

5. EMAIL ID *

   _____

6.   What does PLC stand for?   *

Mark only one oval.

⬭ a) Programmable Logic Controller

⬭ b) Programmable Learning Control

⬭ c) Programmable Looping Circuit

⬭ d) Programmable Linear Control

7.   Which of the following is not a commonly used industrial communication protocol?   *

Mark only one oval.

⬭ a) Ethernet/IP

⬭ b) MODBUS

⬭ c) Bluetooth

⬭ d) Profibus

8.   Which component is typically used for human-machine interface (HMI) in industrial   *
      automation?

Mark only one oval.

⬭ a) SCADA

⬭ b) PLC

⬭ c) PAC

⬭ d) Operator Panel

9. Which of the following is a primary function of a Supervisory Control and Data Acquisition (SCADA) system? *

Mark only one oval.

- a) Data processing
- b) Motion control
- c) Temperature sensing
- d) Network security

10. Which type of sensors are used to detect the presence or absence of objects without physical contact? *

Mark only one oval.

- a) Proximity sensors
- b) Ultrasonic sensors
- c) Photoelectric sensors
- d) Thermocouples

11. What is the purpose of a Variable Frequency Drive (VFD) in industrial automation? *

Mark only one oval.

- a) To regulate voltage
- b) To regulate frequency
- c) To regulate current
- d) To regulate temperature

12. Which of the following is a type of industrial robot commonly used for material handling?   *

Mark only one oval.

○ a) SCARA

○ b) Cartesian

○ c) Articulated

○ d) Delta

13. Which programming language is commonly used for programming PLCs?   *

Mark only one oval.

○ a) Python

○ b) Ladder Logic

○ c) Java

○ d) C++

14. What is the main advantage of using Industrial Internet of Things (IIoT) in industrial automation?   *

Mark only one oval.

○ a) Reduced energy consumption

○ b) Improved production efficiency

○ c) Lower maintenance costs

○ d) Increased equipment lifespan

15. Which of the following is not a component of a typical closed-loop control system?   *

Mark only one oval.

( ) a) Actuator

( ) b) Sensor

( ) c) Controller

( ) d) Relay

16. Which industrial automation component is responsible for converting analog signals to digital signals and vice versa?   *

Mark only one oval.

( ) a) Actuator

( ) b) Transducer

( ) c) Controller

( ) d) Sensor

17. What does the acronym DCS stand for in the context of industrial automation?   *

Mark only one oval.

( ) a) Digital Control System

( ) b) Distributed Control System

( ) c) Dynamic Control System

( ) d) Directional Control System

18.　Which of the following is not a common application of robotics in industrial automation?　*

Mark only one oval.

○ a) Welding

○ b) Packaging

○ c) Email management

○ d) Assembly

19.　What is the primary function of a safety PLC in industrial automation?　*

Mark only one oval.

○ a) Ensuring cybersecurity

○ b) Ensuring operator safety

○ c) Increasing production speed

○ d) Monitoring energy consumption

20.　Which of the following is not a typical input device used in industrial automation?　*

Mark only one oval.

○ a) Push button

○ b) Potentiometer

○ c) LED display

○ d) Proximity sensor

21.   What is the function of a pneumatic actuator in industrial automation?   *

Mark only one oval.

◯ a) Convert electrical signals to pneumatic signals

◯ b) Control fluid flow

◯ c) Generate mechanical motion using compressed air

◯ d) Measure pressure

22.   Which of the following is a common application of machine vision systems in   *
industrial automation?

Mark only one oval.

◯ a) Temperature monitoring

◯ b) Barcode reading

◯ c) Robot programming

◯ d) Pressure sensing

23.   Which type of motor is commonly used in industrial automation due to its precise   *
speed control?

Mark only one oval.

◯ a) Induction motor

◯ b) Stepper motor

◯ c) DC motor

◯ d) Synchronous motor

24.   What is the primary function of a pneumatic valve in industrial automation?   *

Mark only one oval.

- a) Control the flow of electricity
- b) Control the flow of compressed air
- c) Control the flow of hydraulic fluid
- d) Control the flow of gas

25.   Which of the following is a key benefit of using SCARA robots in industrial   *
automation?

Mark only one oval.

- a) High precision
- b) High payload capacity
- c) High flexibility
- d) High speed

26.   What is the main advantage of using a closed-loop control system over an open-   *
loop control system in industrial automation?

Mark only one oval.

- a) Higher reliability
- b) Lower cost
- c) Simplicity
- d) Faster response time

27.   Which component is responsible for storing data and instructions in a PLC?   *

Mark only one oval.

○ a) CPU

○ b) HMI

○ c) Memory

○ d) I/O module

28.   Which of the following is not a typical application of industrial automation?   *

Mark only one oval.

○ a) Automotive manufacturing

○ b) Food processing

○ c) Home gardening

○ d) Pharmaceutical production

29.   What is the primary purpose of a relay in industrial automation?   *

Mark only one oval.

○ a) To amplify electrical signals

○ b) To convert analog signals to digital signals

○ c) To provide electrical isolation

○ d) To regulate voltage

30. Which of the following is a characteristic of a closed-loop control system? *

Mark only one oval.

◯ a) No feedback mechanism

◯ b) Independent of disturbances

◯ c) Feedback loop for error correction

◯ d) Slow response time

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Google Forms

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