



Class Test-I, Summer 2025

Course Code: CIS121, Course Title: Introduction to Industry 4.0

Time: 25 Minutes

Marks: 15

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1. What was the major advancement in the First Industrial Revolution?  
(a) Steam engine (b) Electric motor (c) Computer (d) Internet
2. When were computers and electronics first used in manufacturing?  
(a) First Industrial Revolution (b) First Industrial Revolution  
(c) Third Industrial Revolution (d) Fourth Industrial Revolution
3. Which of the following best describes the goal of Industry 4.0?  
(a) Reducing use of machines (b) Increasing manual labor  
(c) Smart manufacturing systems (d) Relying on steam-powered production
4. In which area of Industry 4.0 are autonomous robots commonly used?  
(a) Remote Monitoring (b) Industrial Simulations (c) Smart Logistics (d) Predictive Analysis
5. Which Industrial Revolution introduced automation?  
(a) First (b) Second (c) Third (d) Fourth
6. What are some common data types in Python? How do you use variables? Give examples. [4]

Some common data types in Python are -

1. int

2. double

3. string

4. boolean

Variable is a ~~an~~ identifier where data can be stored. To use a variable ~~first we need to~~ declare a data type. Example - int n.  
Here 'int' is the data type and 'n' is the variable.

7. A manufacturing company wants to upgrade its traditional production line to a smart factory using Artificial Intelligence (AI).  
Explain the benefits and drawbacks of implementing Artificial Intelligence (AI) in the manufacturing company. [6]

There are several benefits and drawbacks of implementing Artificial Intelligence (AI) in the manufacturing company -

## Benefits —

1. Improved productivity: AI helps to improve production and reduce delays.
2. Efficiency: Smart systems like AI optimize the resources and energy.
3. Decision Making: Artificial Intelligence has massive amount of data which can benefit the business and decide things that a human can't.
4. Lower cost: Lower manual work, lower human errors and ~~lost~~ lower budget.

## Drawbacks —

1. Expensive: Big amount of AI replacement need huge investments.
2. Job-replacement: ~~But~~ AI can take the place of low-skilled workers in the factory.
3. Security Issue: Risk of <sup>the system</sup> getting hacked.
4. Maintenance: Higher technology needs expert care and update.

There are still more or less benefits and drawbacks but these are the main advantages and problem they will face.