

# Correction of exam

Mohamed Khider University- Biskra

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Family name:.....

Faculty of technology

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First name:.....

Electrical Engineering Department

Year: 2024/2025

Section/Group:.....

Level: 1<sup>st</sup> year Master in Automatic

## First Semester Exam of Technical English

Text:

Artificial Intelligence (AI) and robotics are transforming industries by offering advanced capabilities and changing how tasks are carried out. AI simulates human intelligence in machines, enabling them to learn, reason, and solve problems, while robotics involves designing and operating robots to perform tasks autonomously. Together, they create systems capable of achieving remarkable results in sectors like healthcare, manufacturing, agriculture, and space exploration. In healthcare, AI-driven robotics aids in precision surgeries, diagnostics, and patient care. Robotic surgical systems, such as da Vinci, enhance surgeons' precision during operations, while AI analyzes medical data to detect diseases early and provide personalized treatments. In manufacturing, AI-powered robots automate repetitive tasks, improving efficiency, reducing errors, and enhancing workplace safety. These robots adapt to changing environments, handling complex assembly processes, and addressing labor shortages while lowering production costs. In agriculture, AI-driven robots help with crop monitoring, soil analysis, and harvesting, optimizing farming practices and increasing sustainability. Autonomous drones and vehicles equipped with AI sensors boost crop yields. In space exploration, AI-powered robotics, like NASA's Perseverance rover, use machine learning to navigate the Martian terrain and analyze samples, extending human capabilities in hostile environments. However, these technologies raise ethical concerns, such as job displacement, privacy issues, and military misuse. Ongoing research is focused on creating ethical AI frameworks. As AI and robotics evolve, their integration will unlock new possibilities in science, business, and daily life, reshaping the future of work and innovation.

### I- Reading Comprehension:

1- Give a suitable title to the text: (1pt)

*The impact of AI and Robotics*

2- Answer the following questions: (6pts)

a)- What is the main role of Artificial Intelligence (AI) in robotics?

*It is to simulate human intelligence in machines, enabling them to learn, reason, and solve problems, which helps robots*

b)- What sectors are being transformed by AI and robotics?

*healthcare, manufacturing, agriculture, and space exploration are the sectors*

c)- How does AI-driven robotics benefit healthcare?

*by aiding in precision surgeries, diagnostics, and providing personalized patient care.*

d)- What advantages do AI-powered robots offer in manufacturing?

*improve efficiency, reduce errors, enhance workplace safety, adapt to changing environments, handle complex assembly*

3- Give synonym to the following words from the text : (2pts)

a)- Smart machines = *intelligent machines*  
*AI*

b)- changing = *transforming*

4- choose the right answer(s) of the following expression:

(8pts)

4.1- What does AI simulate in machines?

- A. Physical strength  B. Human intelligence  C. Natural environments  D. Mechanical operations

4-2- What capabilities does AI provide to machines?

- A. Learning  B. Reasoning  C. Problem-solving  D. Physical strength

4-3- In which sectors are AI and robotics creating impact?

- A. Healthcare  B. Manufacturing  C. Agriculture  D. Space exploration

4-4- Which surgical system is specifically mentioned in the healthcare sector?

- A. MediBot  B. SurgicalAI  C. da Vinci  D. RoboDoc

4.5- In manufacturing, AI-powered robots primarily help with:

- A. Customer service  B. Marketing  C. Repetitive tasks  D. Human resources

4.6- What roles does AI-driven robotics play in healthcare?

- A. Precision surgeries  B. Diagnostics  C. Patient care  D. Medical billing

4.7- What benefits do AI-powered robots bring to manufacturing?

- A. Automate repetitive tasks  B. Improve efficiency  C. Reduce errors  
 D. Enhance workplace safety  E. Increase production costs

4.8- In healthcare, AI-driven robotics assists with:

- A. Only surgeries  B. Only diagnostics  C. Only patient care  D. Surgeries, diagnostics, and patient care

## II- Writing Expression:

Fill in the gaps with the appropriate words:

(3pts)

robotics - efficiency - technologies - industries - people - design

Experts predict that by 2030, artificial intelligence and *robotics* will automate up to 30% of jobs, particularly in repetitive and *efficiency* tasks, improving workplace safety and *industries*

While some jobs may be lost, new opportunities will arise in areas like robot maintenance, AI *design industries* and human-machine interaction. This shift will require investments in workforce retraining, especially for *people* adapting to new roles. Small businesses and developing economies may struggle with the high costs and technical demands of adopting these *technologies*

BEST OF LUCK 😊

DR: ABIR.BOUCKETTA