

Addis Ababa University
College of Natural and Computational Sciences
Introduction to Emerging Technologies (EmTe1011) for Social Science
Mid-term exam (total point 30%)

Date: December 23, 2019
Time allotted: 1hr.

Name: _____ Id no.: _____ Section: _____

Select campus/school: CSS | CHLSJC | CEBS | CBE-FBE | CBE-Commerce | CLGS | Art | Yared

General instruction: The exam contains total of 30 questions provided in three parts: true/false, multiple choice, and short answer. All answers should be written on the answer sheet included at the bottom of page 3. Switch-off mobile phone.

Part I: True or False (1 pt each)

1. When apps move from the cloud back to on-premises it is known as cloud repatriation.
2. Data curation involves key activities concerned with annotating data so that it becomes easily accessible, discoverable and fit for purpose.
3. Real-time processing is most useful when dealing with very large datasets that require quite a bit of computation.
4. Sophia has been designed by Ethiopian Engineers and is an example of limited memory AI type. ✓
5. Self-driving cars are example of reactive machines artificial intelligence. ✓

Part II: Multiple Choice (1 pt each)

1. Which of the following is regarded as smart revolution?
 - a. Information revolution
 - b. Agriculture revolution
 - c. Industrial revolution (Second revolution)
 - d. Knowledge revolution
2. Which of the following factor is not considered as a driver of information revolution?
 - a. The growth of information-based occupation
 - b. The invention artificial intelligence
 - c. The widespread of cheap personal computers
 - d. The advent of the Internet
3. A device that provides interfacing, data communication, signal processing and other key similar functionalities is _____.
 - a. Microprocessor
 - b. Memory device
 - c. Logic device
 - d. Network device
4. Which of the following is not a future trend of networks?
 - a. 5G technology
 - b. Rise of centralization
 - c. Embedded computation
 - d. Network developments in edge computing
5. Stage of industrial revolution characterized by the use of IoT, AI, and Big Data Technologies to the industry that will allow the intelligent production.
 - a. Industry 1.0
 - b. Industry 2.0
 - c. Industry 3.0
 - d. Industry 4.0

16. _____ require intelligence to handle tasks such as object manipulation and navigation, along with sub-problems of localization, motion planning and mapping.
- a. Machine learning
 - b. Robotics
 - c. Virtual reality
 - d. Augmented reality
17. The most common and currently available AI system is _____
- a. General Intelligence
 - b. Narrow Intelligence
 - c. Super Intelligence
 - d. Theory of Mind
18. Which of the following does not belong to components of AI system?
- a. Models
 - b. Data
 - c. Hardware
 - d. Programming languages
19. Which of the following AI system has beaten the world's chess champion?
- a. AlphaGo
 - b. Deep Blue
 - c. Siri
 - d. Watson
20. All are AI applications in the agriculture sector, except _____
- a. See & Spray Robot
 - b. Harvest CROO Robotics
 - c. Crop and Soil Monitoring
 - d. IBM Watson analysis

Part III: Short Answer (1 pt each)

1. _____ is a discipline concerned with the design, evaluation and implementation of interactive computing systems for human use and with the study of major phenomena surrounding them.
2. A technology that enable machines to analyze, understand and manipulate images and video is known as _____
3. _____ is the science and engineering of making machines to think and act humanly.
4. The two method of computing for Big Data Processing are _____ and _____
5. The "three Vs. of big data" are _____, _____, and _____.

Answer Sheet for Part I and Part II

Part I: True or False

1.	2.	3.	4.	5.
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Part II: Multiple Choice

1.	2.	3.	4.	5.
6.	7.	8.	9.	10.
11.	12.	13.	14.	15.
16.	17.	18.	19.	20.

- Part III: Short Answer**
1. _____
 2. _____
 3. _____ and _____, and Down
 4. _____
 5. _____

6. The bi-direction information flow between a human brain and a machine is referred to as
- Neuro-modulation
 - Social Computing
 - Human Machine Interface
 - Brain Computer Interface
7. Agricultural mass crop production technologies were invented during _____ period
- Industrial revolution
 - First Agricultural revolution
 - Second Agricultural revolution
 - Third Agricultural revolution
8. Poorly designed human-machine interfaces can lead to many unexpected problems. All can be classic example, except _____
- Three Mile Island accident in USA
 - A nuclear meltdown accident
 - Accidents in aviation industries
 - Explanation of Chabots
9. All are characteristics that determine the quality of information, except _____
- Timely
 - Accuracy
 - Completeness
 - Inconsistency
 - All of the above
10. The goal of most big data systems is _____
- To save cost
 - To reduce complexity
 - To surface insight
 - To secure data
11. If you select one photo in your phone and see details like the size, type, location, and image captured date, this is _____
- an integer data
 - a metadata
 - a semi-structured data
 - a unstructured data
12. Which of the following is wrong about data type?
- A data type is an attribute of data in integers, Booleans, and floating-point number.
 - A data type is about the structure of data such as structured, unstructured, and semi-structured.
 - A data type is the structure of the data for a computer programming.
 - A data type is data about data in metadata
13. What are the different activities of Big-data life cycle?
- Ingesting data, persisting data, computing and analyzing data, and visualizing results.
 - Acquisition, analysis, curation, storage, and usage.
 - Veracity, variability, and value.
 - Input, processing, and output.
14. With respect to "commuting and analyzing Big data", one of the following tool is different
- Apache Storm
 - Apache Hadoop's MapReduce
 - Apache Flink
 - Apache Spark
15. Which of the following are the applications of Chatbots?
- Google Assistance
 - Google Home
 - Siri in iphone
 - None of the above