

H campus

be reasonable, to be successful

ለተጨማሪ ፈተናዎች በቴሌግራም ቻናላችን ይከታተሉን /https//t.me/z_campus ፣ ይከታተሉ !

29/30
V. good!

BAHIR DAR UNIVERSITY

BAHIR DAR INSTITUTE OF TECHNOLOGY

FACULTY OF COMPUTING

Introduction to Emerging Technologies Mid Exam

Total mark: 30% | Time allowed: 60 Minutes | Date: August 11, 2021 | Target group: 1st Year Students

General Instruction

- Switch off your phone
- Write an appropriate answer for each question precisely and concisely.
- [illegible] to copy from other students is prohibited.

Name [illegible] Section 3A

Part I. Write true if the [illegible] and write false if the statement is [illegible]

True 1. HDFS is a centralized file system in Hadoop ecosystem.

False 2. The primary goal of HCI is to improve the interaction between computers to computers.

False 3. A much bigger percentage of all the data in our world is semi-structured data.

True 4. Currently available AI systems cannot beat the imaginative and creative thinking power of human beings.

False 5. NoSQL technologies are designed to store data in a row and column format.

Part II. Choose the best answer from the given alternatives (15 pts) 14

B 1. Which of the following is some sort of hardware architecture or software framework that allows the software to run?
   A. Hadoop file system
   B. Platform
   C. API
   D. Chat bot

B 2. Which of the following component of AI systems is responsible for taking action?
   A. Interacting layer
   B. Interpreting layer
   C. Sensing layer
   D. Perception layer

B 3. Which one of the following, can't be considered as the key features of Hadoop?
   A. Reliability
   B. Low Scalability
   C. Flexibility
   D. Economical

D 4. Which one of the following is the influencer of AI, which enables software components to communicate with each other?
   A. Big data
   B. Cloud computing
   C. Data science
   D. API

D 5. The level of AI that is not available today.
   A. Context awareness and Retention
   B. Rule based systems
   C. Domain specific expertise
   D. Self-aware systems

B 6. Which Industrial revolution era is characterized by electricity and mass production?
A. Digital
B. Technological
C. Mechanical
D. AI

C 7. Which of the following is an example of unstructured data?
A. Spreadsheet
B. XML
C. NoSQL databases
D. SQL databases

DA 8. Which one of the following can be the motivating factor for the development of IR 4.0?
A. Artificial Intelligence
B. Big data analytics
C. Cloud computing
D. All of the above

BC 9. The strength of narrow AI is:
A. It can exhibit the capabilities of the human brain.
B. It is able to capture scientific creativity, general wisdom, and social skills.
C. It focuses on a specific task which enables to do tasks well.
D. It is much smarter than the best human brains practically in every field.

A 10. Which of the following Hadoop component is used for a distributed data storage unit?
A. HDFS
B. MapReduce
C. ZooKeeper
D. Hadoop YARN

B 11. A highly increasing amount of data, which cannot be stored, processed, and analyzed using the Relational database management systems.
A. Data science
B. Big data
C. Hadoop
D. NoSQL

CA 12. The field of artificial neural networks with several hidden layers is ___.
A. Machine learning
B. NLP
C. Deep learning
D. Cloud computing

A 13. Which of the following device is responsible for executing software instructions in digital electronic systems?
A. Microprocessor
B. Logic Device
C. Storage device
D. Network device

D 14. The type of AI machines which only focus on current scenarios and react on it as per possible best action.
A. Self-Awareness
B. Limited memory
C. Theory of mind
D. Reactive Machine

C 15. Which of the following is the goal of data curation in the Big Data Value Chain?
A. Persistence of data in a scalable way
B. Conducting data-driven business activities
C. Ensuring quality of data
D. Highlighting relevant data

Part III. Discuss and explain each question carefully 9

1. List four disciplines contributing to Human-Computer Interaction (HCI) (2 pts.)

- Artificial Intelligence
- Linguistics
- HUman factor
- Engineering and design

2. Is it possible to map the way of human thinking to artificial intelligence components? If your answer is Yes, how? (2 pts.)

Yes Artificial intelligence science of simulating human thinking it's possible map the human thinking stage to the layer of computer AI system, have 4 stage. layers?

1st stage Human Hearing AI voice recognition for 2nd stage Human thinking AI interpretation layer 3rd stage Human making decision AI evaluating in the data extracting layer for the necessary layer

3. List at least four disadvantages of AI? (2 pts.)

- Un employment
- can not think outside of the box
- Potential for misuse
- Artificial super intelligence
- High cost

4. List and discuss at least three characteristics of big data. (2 pts.)

1 Volume - large amount of data
2 Velocity: Data is live streaming or in motion
3 Variety - data comes in many different form from diverse sources
4 Veracity - can we trust the data? How can accurate is it?

5. What are the goals of artificial intelligence (list at least 4)? (2 pts.)

Artificial intelligence have their own goals
1 Replicate human intelligence
2. Solve knowledge-intensive tasks
3. An intelligence connection of perception & action
4 creating some system which can exhibit intelligent behaviour.