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MIZAN TEPI UNIVERSITY

SCHOOL OF COMPUTING AND INFORMATICS

Introduction to Emerging Technologies Mid Exam

Total mark 30% Time Allowed: 1:20 | Date November 25, 2021 | Target Group: 1st Year Students

Name: [redacted] ID: [redacted] Section: "G"

General Instruction

- Write an appropriate answer for each question precisely and concisely on the separate answer sheet
- Any kind of cheating will nullify your result
- Switch off your cell phone before starting the exam

Part I: Choose the correct answer from the given alternatives (1.5 pts. each)

1. Which one of the following is not correctly matched?
   A. Primary industries → Getting raw materials
   B. Secondary industries → Manufacturing
   C. Ternary industries → Research and development
   D. All
   E. None
2. From data analytics point of view, which one of the following data type is known as a self-describing structure?
   A. Semi-structured Data
   B. Metadata Data
   C. Structured Data
   D. Unstructured Data
   E. None
3. Which one of the following is not advantage of Big Data?
   A. Processing massive amounts of data
   B. Low latency data access
   C. Handling a variety of data
   D. All
   E. None

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4. Which one of the following is odd?
   A. Data science enables you to take better and faster decisions.
   B. Data science has ability to prevent significant monetary loses only.
   C. Data science allows to build intelligence ability in machines.
   D. Data Science can help you to detect fraud using advanced machine learning algorithms.
   E. None

5. Which of the following is not a goal of AI?
   A. Plan some surgical operation
   B. Adapting to the environment and situations
   C. Real Life Problem Solving
   D. To rule over humans

6. Which one of the following statement is not correct about the concept of Emerging Technology?
   A. New technologies that are currently developing which will ensure that there is minimal impact on our environment and to make society a better place to live.
   B. New technologies that are currently developing which will ensure that expected to create significant impact on our environment and to make society a better place to live.
   C. New technologies that are currently developing or will be developed over the next five to ten years, and which will substantially alter the business and social environment.
   D. New technologies that are continues development of an already existing technology
   E. B & D
   F. None

7. All of the following are the importance of forming clustered computing for big data analysis. Except,
   A: Combining available resource storages and CPU and memory pooling are significant.
   B. Clusters make it easy to scale horizontally by adding additional machines to the group.
   C. Clusters provides low level of fault tolerance and availability.
   D. None

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8. For taking decisions data must be?

A. Very accurate B. Massive

C. Processed correctly D. Collected from diverse sources E. All

9. Which of the following data value chain requires an expert which is responsible for improving the accessibility and quality of data?

A. Data Acquisition B. Data Analysis C. Data Usage

D. Data Storage E. Data Curation F. None

10. Which type of AI refers to machines that perform any intellectual task with efficiency like a human?

A. Weak Artificial Intelligence C. Super Artificial intelligence

B. Singularity and Transcendence D. General Artificial Intelligence

Part II: Fill blank space (2 pts. each)

1. Hadoop is a distributed file system that may run on a cluster of commodity machines, where the storage of data is distributed among the cluster and the processing is distributed too.
2. Data usage describes the information flow with in the big data system to generate hidden pattern and useful knowledge from data.

Part III. Write a short answer for the following questions

1. List at least 3 application area of artificial intelligence and explain briefly? **(3 Points)**
2. Briefly explain the mapping of human thinking to artificial intelligence components **(3 Points)**?
3. What is human to computer interaction and how human beings interact with computers? **(3 Points)**
4. List and explain basic components of Hadoop system **(2 Points)**.