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# B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

## April 2024 Semester End Main Examinations

**Programme: B.E.**

**Semester: III**

**Branch: Industrial Engineering and Management**

**Duration: 1 hr.**

**Course Code: 23IM3AEOET**

**Max Marks: 50**

**Course: Overview of Emerging Technologies**

**Instructions:** 1. Answer all the questions from PART A

2. Answer any THREE questions from PART B

|   | <b>PART - A</b>   | <b>CO</b> | <b>PO</b> | <b>Marks</b> |
|---|---|-----------|-----------|--------------|
| 1 | Emerging technology can have different meanings when used in different areas, such as media, business, science, or education<br><br>a) True b) False c) Partially true d) None of these   | CO1       | PO1       | <b>01</b>    |
| 2 | The term Emerging technology refers to technologies that are<br><br>a) Currently developing<br>b) Expected to be available within the next five to ten years<br>c) Creating or are expected to create significant social or economic effects<br>d) a, b and c | CO1       | PO1       | <b>01</b>    |
| 3 | Radical transformation of society through technological development is known as<br><br>a) Social evolution b) Digital evolution c) Technological evolution d) None of these   | CO1       | PO1       | <b>01</b>    |
| 4 | Industrial Revolution 2.0 is known as<br><br>a) Machine tools Revolution b) Technological Revolution c) Digital Revolution d) cyberphysical systems Revolution  | CO1       | PO1       | <b>01</b>    |
| 5 | The disciplines like Cognitive psychology, Computer science, Human factors are contributing to<br><br>a) IR 3.0 b) HCI study c) IoT d) All of these   | CO1       | PO1       | <b>01</b>    |
| 6 | ----- is a multi-disciplinary field that uses scientific methods, processes, algorithms, and systems to extract knowledge and insights from data<br>a) Data mining b) Data engineering c) Data analytics d) Data science                                      | CO1       | PO1       | <b>01</b>    |

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|  | 7  | Structured, Semi-structured, Unstructured are types of data according to ----- perspective<br><br>a) Computer programming b) Data Analytics c) Data mining d) Data science   | CO1 | PO1 | <b>01</b> |
|  | 8  | JSON and XML are forms of<br><br>a) Structured Data b) Semi-structured Data c) Unstructured Data d) Alphanumeric strings   | CO1 | PO1 | <b>01</b> |
|  | 9  | ----- provides additional information about a specific set of data<br><br>a) Data science b) Data analysis c) Meta data d) None of these   | CO1 | PO1 | <b>01</b> |
|  | 10 | ----- describes the information flow within a big data system as a series of steps needed to generate value and useful insights from data<br><br>a) Data value Chain b) Supply chain c) Value stream mapping d) Value analysis | CO1 | PO1 | <b>01</b> |
|  | 11 | ----- is the branch of computer science by which we can create intelligent machines which can behave like a human, think like humans, and able to make decisions<br><br>a) IoT b) AI c) Software engineering d) Robotics       | CO1 | PO1 | <b>01</b> |
|  | 12 | Reasoning, Learning, Problem Solving are part of<br><br>a) Intelligence b) HCI c) Evolution d) Education   | CO1 | PO1 | <b>01</b> |
|  | 13 | ----- AI systems have human-like intelligence<br><br>a) Reasoning Machines b) Self Aware Systems c) Domain-Specific Expertise d) All of these  | CO1 | PO1 | <b>01</b> |
|  | 14 | ----- shares ideas, solves problems collectively, and even gives others access to our dreams as observers or participants<br><br>a) Hive mind b) Free mind c) Agitated mind d) None of these                                   | CO1 | PO1 | <b>01</b> |
|  | 15 | The weak, general and strong are the classifications of AI based on<br><br>a) Function b) capability c) Time d) Systems  | CO1 | PO1 | <b>01</b> |
|  | 16 | The Artificial intelligence, connectivity, sensors, active engagement, and small device use are the features of -----<br><br>a) Cyber security b) Internet of Things c) Data science d) None of these                          | CO1 | PO1 | <b>01</b> |
|  | 17 | The architecture of ----- comprises four major components: sensing, network, data processing, and application layers<br><br>a) IoT device b) Robot c) CNC machine d) All of these  | CO1 | PO1 | <b>01</b> |

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|---------------|----|---|------------|-----|-----------|
|               | 18 | -----sensors of IoT devices deal with the physical position and location of the device<br><br>a) Distance b) Geometric c) Position d) Speed   | CO1        | PO1 | <b>01</b> |
|               | 19 | The term IoT according to the 2020 conceptual framework is expressed through a formula such as:<br><br>a) Services+ Data+ Networks + Sensors<br>b) Devices + data + computers + software<br>c) Applications + feedback devices + devices + time<br>d) None of these | CO1        | PO1 | <b>01</b> |
|               | 20 | ----- act as defining instruments that transform IoT from a standard passive network of devices into an active system capable of real-world integration<br><br>a) Sensors b) Networks c) Systems d) Lines   | CO1        | PO1 | <b>01</b> |
| <b>PART B</b> |    |   |            |     |           |
|               | 1  | Discuss about the different levels of AI  | CO1        | PO1 | <b>10</b> |
|               | 2  | Discuss the components of IoT architecture  | CO1        | PO1 | <b>10</b> |
|               | 3  | What is a data value chain? Discuss about activities of data value chain  | CO1        | PO1 | <b>10</b> |
|               | 4  | What is a Data science? Discuss the application of Data science in any Grocery store and also brief on the Data types from Data Analytics perspective.  | CO1<br>CO2 | PO1 | <b>10</b> |
|               | 5  | Discuss the major developments which were part of IR 3.0 and IR 4.0 briefly. Also discuss the advantages and the disciplines that are contributing to HCI.  | CO1        | PO1 | <b>10</b> |

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