

SPRING MID-SEMESTER EXAMINATION-2023-24

School of Electronics Engineering
Kalinga Institute of Industrial Technology
Deemed to be University

4TH Semester

Subject: Industry 4.0 Technologies (EX20001) (Regular)

Format-1

Instructions:-

- 4 (four) questions are to be attempted.
- Question Paper consists of 4 (four) Sections i.e. **A, B, C and D.**
- Section **A** is Compulsory and to cover the entire mid semester syllabus.
- The Examinee has to attempt any 1 (one) questions from Sections **B, C and D.**

Time: 1.5 hours

Full Marks: 20

The figures in the right-hand side indicate full marks.

All parts of a question should be answered at one place only.

| Question No | Section-A | Question | CO Mapping | Marks |
|-------------|---------------------|---|------------|-----------|
| Q1. | Question Type (SAT) | Answer the following questions in short. | | [1x5] |
| a | | What is preventing Industry 4.0 innovation from being widely adopted? | CO1 | |
| b | | State different types of AI and how they differ in terms of application? | CO3 | |
| c | | What is big data analytic process, and how does it is functioned in processing and storage? | CO3 | |
| d | | Why do industries need digitalization and how it affects the economystatus of a country? | CO1 | |
| e | | What difficulties lie ahead in creating a CPS system? | CO3 | |
| | | | | |
| Section-B | | | | |
| Q2. | | a) What is the biggest challenge of Industry 4.0in our country? b) What are the 6 main applications ofIndustry 4.0 today? | CO1 | [2.5+2.5] |
| Q3. | | How can you implement Industry 4.0 for acompany to achieve value innovation? | CO1 | [5] |
| Section-C | | | | |
| Q4 | | a) What are the 5 V's in big data? b) What are the key steps involvedto deploya big data model? | CO3 | [2+3] |
| Q5 | | How the Augmented reality technologyhelps in the medical application? | CO3 | [5] |
| Section-D | | | | |
| Q6 | | a) Explain the different phases for transforming from digital world information to real world tangible product. b) What makes the 4 th Industrial Revolutiondifferent from the 3 rd Industrial Revolution? | CO1 | [3+2] |

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|----|--|--|-----|-----|
| Q7 | | What is CPS? Differentiate between 5cmodel and RAMI 4.0 model for CPS. | CO3 | [5] |
|----|--|--|-----|-----|

NB: Question with either or option must assess the same CO.

*(Marks_1+Marks_2+Marks_3) =15