**14OE706/BR 01**

Hall Ticket Number:

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**IV/IV B.Tech (Regular/Supplementary) DEGREE EXAMINATION**

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| **Jan / Feb, 2021** | | | **Common to ECE, EEE and EIE** | |
| **Seventh Semester** | | | **Automation Technology** | |
| **Time:** Three Hours | | | **Maximum:** 60Marks | |
| *Answer ALL Questions from PART-A.* | | | (1x12 =12 Marks) | |
| *Answer* ***ANY FOUR*** *questions from PART-B.* | | | (4x12 =48 Marks) | |
| **Part - A** | | | | |
| **1.** | **Answer the following (**12x1=12Marks) | | | |
|  | a. | What are the advantage and disadvantage of hydraulic power | |  |
|  | b. | Mention the different between Hydraulics and Pneumatics | |  |
|  | c. | Mention the applications of pneumatics in the engineering field | |  |
|  | d. | Name the basic component of hydraulic systems | |  |
|  | e. | Sketch the symbol for time delay valve. | |  |
|  | f. | Define stroke length? | |  |
|  | g. | Give the graphical symbol of shuttle valve? | |  |
|  | h. | Difference between sensor and transducer. | |  |
|  | i. | What is force sensor? | |  |
|  | j. | Define resolution | |  |
|  | k. | What are the liquid flow measuring devices? | |  |
|  | l. | Define programmable logic controller. | |  |
|  |  | **Part - B** | |  |
| 2. | a. | Explain the working principle of external gear pump and determine its performance measure | | 6M |
|  | b. | Explain with a neat sketch construction & working of a compressor. | | 6M |
|  |  |  | |  |
| 3. | a. | Difference between Non-relieving pressure regulators and Relieving pressure regulators. | | 6M |
|  | b. | Explain the working principle of vane pumps with neat sketch | | 6M |
|  |  |  | |  |
| 4. |  | Describe pneumatic Actuators and explain the types of linear Actuators | | 12M |
|  |  |  | |  |
| 5. | a. | Explain the construction and working of following control components  1)check valve 2)Shuttle valve 3) Flow control valve | | 12M |
|  |  |  | |  |
| 6. | a. | Briefly explain the characteristics of Sensor | | 6M |
|  | b. | What are the methods used for temperature measurements? | | 6M |
|  |  |  | |  |
| 7. | a. | Write various parameters to be considered in selecting a sensor for a given application. | | 6M |
|  | b. | Briefly explain the working principle of Proximity sensors with neat sketch | | 6M |
|  |  |  | |  |
| 8. |  | Explain the configuration of a PLC. List the considerations in selecting a PLC | | 12M |
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| 9. | . | Explain about the architecture of PLC with a neat block diagram. | | 12M |

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