**FIFTH SEMESTER B. TECH (ELECTRONICS AND INSTRUMENTATION)**
**PROCTORED ONLINE END SEMESTER EXAMINATION Dec. 21/Jan. 22**
SUBJECT: **MICROCONTROLLERS (ICE 3152)**

TIME: 75 minutes                    DATE: 28-12-2021                    MAX.MARKS:20

**Note: Answer *All* questions.**

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|---|---|---|---|
| 1 | A | Illustrate a neat block diagram of the 8051 Microcontroller. | 2 |
| | B | Write a program to toggle an I/O pin every 1.5 second using timer interrupts. Assume XTAL = 16MHz. | 3 |
| | C | With interfacing diagram, write an 8051 ALP to control the stepper motor, by assuming code sequence is stored in a memory location pointed by DPTR. Use suitable delay routine and comment on each of instructions used. | 5 |
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| 2 | A | Generate an asymmetrical square wave at the pin no. 18, 19, 20, and 21 of LPC 2148 Port0. | 2 |
| | B | Discuss the timer unit of LPC2148 with block diagram. | 3 |
| | C | With neat diagram explain the operating modes of ARM. | 5 |

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