Total No. of Questions – [06]

Total No. of Printed Pages: 1

G.R. No.	

DECEMBER 2021 - ENDSEM EXAM
S. Y. B. TECH. (INFORMATION TECHNOLOGY) (SEMESTER - I)
COURSE NAME: DIGITAL ELECTRONICS AND MICROPROCESSOR
COURSE CODE: ITUA21202
(PATTERN 2020)

Time: [1 Hour] [Max. Marks: 30]

Instructions to candidates:

1) **Answer Q.1 OR Q.2, Q.3 OR Q.4, Q.5 OR Q.6.**
2) **Figures to the right indicate full marks.**
3) **Use of scientific calculator is allowed**
4) **Use suitable data where ever required**

Q.1) a) Design Mod 75 counter using IC 7490 [4]

b) Design 3-bit Synchronous Down Counter using JK-Flip Flop [6]

OR

Q.2) a) Compare Moore and Mealy machines [4]

b) Design 4-bit Ring and Johnson counter [6]

Q.3) a) List characteristics of digital IC's and explain Voltage parameters [4]

b) Design and implement BCD to excess-3 code converter using PAL [6]

OR

Q.4) a) Draw and Elaborate diagram of TTL to CMOS interfacing [4]

b) Draw and Discuss working of 2 input CMOS NAND gate [6]

Q.5) a) List the uses of Program counter and Stack pointer in 8085 Microprocessor [4]

b) Conclude the Modelling Styles used for VHDL language with example [6]

OR

Q.6) a) Determine the status of flag register after addition of 07H and CFH [4]

b) Conclude Data transfer instructions with examples [6]