

## Principles of Digital Electronics-II

Semester- II	Subject Code: BS21508	Lectures: 40
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## Objectives:

The syllabus aims in equipping students with

- Concepts of digital electronics
- Studying combinational circuits and sequential circuits
- Case study on different digital circuits

Unit 1: Combinational Circuits	No. of Lect.=18
• Multiplexer (2:1, 4:1), de multiplexer (1:2, 1:4) and their applications	6
• Code converters - Decimal to binary, hexadecimal to binary, BCD to decimal	6
• Encoder & Priority encoder, Decoder, BCD to seven segment decoder.	6

## BOS Members:

Ms. Nanda Ranade, (Subject Expert)

Mr. Manoj Kukade, (Subject Expert)

Mr. Prafulla Wadaskar. (Industry Expert)

Ms. Divya Jagannathan, (Alumni)

Ms. Swatee Sarwate, (Chairman)

Ms. Anitha Menon, (Internal Faculty)

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*Prafulla*  
*Divya*  
*Swatee*  
*Anitha*



Unit 2: Sequential Circuits	No. of Lect.=18
<ul style="list-style-type: none"> <li>Flip flops: RS using NAND latch, clocked RS, JK, Master slave JK, Delay(D) and Toggle(T).</li> </ul>	6
<ul style="list-style-type: none"> <li>Asynchronous, Synchronous counters with timing diagrams. up or down counter</li> </ul>	6
<ul style="list-style-type: none"> <li>Modulus of counters, Decade counters.</li> </ul>	2
<ul style="list-style-type: none"> <li>Shift registers: SISO, SIPO, PISO, PIPO shift registers, ring counter, universal 4-bit shift register and Applications.</li> </ul>	4

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Unit 3: Applications of Digital Circuits	No. of Lect.=4
• A Digital Clock	2
• Matrix key board encoder	1
• Multiplexing displays	1

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**Recommended Text Books / Reference Book:**

- Digital Electronics: Jain R.P., Tata McGraw Hill
- Digital Principles and Applications: Malvino Leach, Tata McGraw-Hill.
- Digital Fundamentals: Floyd T.M., Jain R.P., Pearson Education

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