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| **P.V.P Siddhartha Institute of Technology(Autonomous)** | **Signature of Invigilator with date:** | **Marks Obtained:** |
| **Department of Computer Science and Engineering** |
| **Course: B.Tech** | **Year: II** | **Semester: I** | **Objective: II** |
| **Regulation:PVP20** | **Maximum Marks:10Marks** | **Session: F.N** |
| **A.Y:2023-24** | **Date:29-11-2023** | **Duration: 20 min** |
| **Subject Code: 20CS3301** | **Subject Name: Fundamentals of Digital Logic Design** |
| **Registered Number:** | **Name:** |
| **Answer all the Questions. Each Question carries ½ Mark 20×½ M=10M** |
| **S.No** | **Question** | **CO** | **Level** | **Answer** |
| **1.** | **The difference between Half subtractor and full subtractor is \_\_\_\_\_\_\_\_\_\_** | **CO1** | **L2** |  |
| a) Half subtractor has two inputs while full subtractor has four inputs |
| b) Half subtractor has one output while full subtractor has two outputs |
| c) Half subtractor has two inputs while full subtractor has three inputs |
| d) All of the Above |
| **2.** | **The number of input lines in a common BCD to seven segment decoder is**  | **CO1** | **L2** |  |
| a) 8 | b) 2 |
| c) 16 | d) 4 |
| **3.** | **A Device which converts 2^n inputs to n outputs is called** | **CO1** | **L2** |  |
| a) Decoder | b) Encoder | c) Multiplexer | d) De Multiplexer |
| **4.** | **How many 3x8 Decoders are required to construct a 4x16 Decoder** | **CO1** | **L2** |  |
| a) 2 | b)3 | c) 4 | d) 5 |
| **5.** | **If A and B are the inputs of a half subtractor, the Difference expression is given by** | **CO1** | **L2** |  |
| a) A AND B | b) A OR B |
| c) A XOR B | d) A X-NOR B |
| **6.** | **Multiplexer is also known as** | **CO1** | **L2** |  |
| 1. Data distributor
 | 1. Data Selector
 |
| 1. Data separator
 | 1. Data connector
 |
| **7.** | **How many data select lines are required for selecting 32 inputs?** | **CO1** | **L2** |  |
| a) 1 | b) 2 | c) 3 | d) 5 |
| **8.** | **Find the number of 2x1 MUX required to implement 8x1 MUX** | **CO1** | **L2** |  |
| a)15 | b) 20 |
| c) 5 | d) 7 |
| **9.** | **The Logic Circuit whose outputs at any instance of time depends only on the present input but also on the past outputs are called** | **CO1** | **L2** |  |
| a) Sequential Circuits | b) Latches |
| c) Combinational Circuits | d) Flip Flops |
| **10.** | **In S-R Latch , When S=1 and R=1 output Q becomes** | **CO1** | **L2** |  |
| a) 0 | b) 1 | c) No Change | d)Un determined |

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| **11.** | **When Toggle Condition occurs in T Flip Flop** | **CO1** | **L2** |  |
| * a) T=1
 | * b) T=0
 |
| **12.** | **The Register is a type of \_\_\_\_\_\_** | **CO1** | **L2** |  |
| a) Sequential Circuit  | b) Combinational Circuit | c) CPU | d) Latches |
| **13.** | **Which of the following is true about synchronous counters.** | **CO1** | **L2** |  |
| a) The output of one flip-flop will act as clock input for next flip-flop |
| b) All the Flip-flops have common clock pulse. |
| c) Both a & b. |
| d) None of the above |
| **14.** | **A Counter is defined as\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | **CO1** | **L2** |  |
| a) A register that goes through a prescribed sequences of states upon the application of an input pulse. |
| b) The group of Latches for storing n- bit of Information |
| c) The group of Flip Flops suitable for storing one bit of Information |
| d) The group of Flip Flops suitable for storing binary Information |
| **15.** | **\_\_\_\_\_\_\_\_\_\_\_\_\_\_type of shift register that requires the input in serial and produce the output in serial.** | **CO1** | **L2** |  |
| a) Parallel in/ Serial Out | b) Serial in / Parallel Out |
| c) Serial in / Serial Out | d) A Bidirectional Shift Register |
| **16.** | **Johnson Counter is also known as\_\_\_\_** | **CO1** | **L2** |  |
| a) mod 2n counter | b) Twisted Ring counter |
| c) Decade Counter | d) Both a and b |
| **17.** | **Which of the following is representing Full modulus and truncated counters respectively?** | **CO1** | **L2** |  |
| a) Mod-6 and Mod-5 | b) Mod-8 and Mod-16 |
| c) Mod-16 and Mod-12 | d) None of the above |
| **18.** | **The Number of T- Flip Flops required to design a mod-6 Asynchronous Counter is \_\_\_\_\_\_\_\_\_\_\_** | **CO1** | **L2** |  |
| a) 2 | 1. 4
 | c) 3 | d) 10 |
| **19.** | **In a 6-bit Johnson counter sequence there are a total of how many states, or bit patterns?** | **CO1** | **L2** |  |
| a) 2 | 1. 4
 | c) 6 | d) 12 |
| **20.** | **In which of the following counter no. of states equal to no. of flip flops required?** | **CO1** | **L2** |  |
| a) Ring Counter | b) Parallel Counter |
| c) Ripple Counter | d) Johnson Counter |