1.What is the basic building block of arithmetic circuits?

A) Multiplexer

B) Demultiplexer

C) Adder

D) Decoder

Answer: C) Adder

Explanation: Adder is the fundamental component used in arithmetic circuits for addition operations.

2.Which logic gate is used in the construction of a Half Adder?

A) AND

B) OR

C) XOR

D) NOT

Answer: C) XOR

Explanation: Half Adder consists of an XOR gate and an AND gate.

3.What is the function of a Full Adder?

A) Adds two binary numbers

B) Adds three binary numbers

C) Adds two binary numbers with carry input

D) Adds two decimal numbers

Answer: C) Adds two binary numbers with carry input

Explanation: Full Adder adds two binary numbers along with a carry input from the previous stage.

4.What is the difference between a Half Adder and a Full Adder?

A) Half Adder has only one input
B) Full Adder has an additional carry input
C) Full Adder has only one output
D) Half Adder has an additional carry input
Answer: B) Full Adder has an additional carry input
Explanation: Full Adder can add three inputs: two binary numbers and a carry input from the previous stage.

5.Which logic circuit is used to perform both addition and subtraction operations?
A) Half Adder
B) Half Subtractor
C) Full Adder
D) Full Subtractor
Answer: D) Full Subtractor
Explanation: Full Subtractor can perform both addition and subtraction.

6.What is the function of a Look-ahead carry generator?
A) Generates carry-in bit
B) Generates carry-out bit
C) Generates carry-in and carry-out bits simultaneously
D) Generates overflow flag
Answer: C) Generates carry-in and carry-out bits simultaneously
Explanation: Look-ahead carry generator predicts carry-out without waiting for the carry-in.

7.Which logic circuit is used to add Binary Coded Decimal (BCD) numbers?
A) Half Adder
B) Full Adder

C) BCD Adder
D) Full Subtractor
Answer: C) BCD Adder
Explanation: BCD Adder is designed specifically to add Binary Coded Decimal numbers.

8.In series addition of binary numbers, which bit is transmitted first?
A) Least Significant Bit (LSB)
B) Most Significant Bit (MSB)
C) Carry bit
D) Overflow bit
Answer: B) Most Significant Bit (MSB)
Explanation: In series addition, the MSB is transmitted first.

9.Which circuit is used to select one out of several input lines and route it to a single output line?
A) Multiplexer
B) Demultiplexer
C) Encoder
D) Decoder
Answer: A) Multiplexer
Explanation: Multiplexer selects one input line from multiple inputs and forwards it to a single output.

10.What is the function of a decoder?
A) Converts binary data into its equivalent decimal form
B) Converts decimal data into binary form
C) Selects one output line from multiple input lines

D) Combines multiple input lines into a single output line
Answer: C) Selects one output line from multiple input lines
Explanation: Decoder decodes the input and selects one of the output lines based on the input code.

11.Which operation can an ALU (Arithmetic Logic Unit) not perform?
A) Addition
B) Subtraction
C) Multiplication
D) Division
Answer: D) Division
Explanation: ALU typically performs addition, subtraction, and logical operations but not division.

12.What does ALU stand for?
A) Arithmetic Logic Unit
B) Automated Logic Unit
C) Advanced Logic Unit
D) Algorithmic Logic Unit
Answer: A) Arithmetic Logic Unit
Explanation: ALU performs arithmetic and logical operations on data.

13.Which of the following is a parallel addition technique?
A) Ripple Carry Addition
B) Carry Look-ahead Addition
C) Series Addition
D) Both A and B

Answer: D) Both A and B
Explanation: Both Ripple Carry and Carry Look-ahead Addition are parallel addition techniques.

14.Which logic circuit is used to convert a binary number into its equivalent Gray code?
A) Encoder
B) Decoder
C) Multiplexer
D) Demultiplexer
Answer: A) Encoder
Explanation: Encoder converts binary data into a different format, such as Gray code.

15.What is the main advantage of parallel addition over serial addition?
A) Lower hardware complexity
B) Faster operation
C) Reduced power consumption
D) Easier implementation
Answer: B) Faster operation
Explanation: Parallel addition processes multiple bits simultaneously, resulting in faster operation.

16.Which logic circuit is used to combine multiple input lines into a single output line?
A) Encoder
B) Decoder
C) Multiplexer
D) Demultiplexer
Answer: C) Multiplexer

Explanation: Multiplexer selects one input line from multiple inputs and forwards it to a single output.

17.In a Full Subtractor, what inputs are required?
A) Two binary numbers
B) Two binary numbers and a borrow input
C) Three binary numbers
D) Three binary numbers and a borrow input
Answer: D) Three binary numbers and a borrow input
Explanation: Full Subtractor subtracts three binary numbers along with a borrow input from the previous stage.

18.Which logic circuit is used to divide one input into multiple outputs?
A) Encoder
B) Decoder
C) Multiplexer
D) Demultiplexer
Answer: D) Demultiplexer
Explanation: Demultiplexer divides a single input into multiple outputs.

19.What is the purpose of an encoder in digital electronics?
A) To convert analog data to digital data
B) To convert digital data to analog data
C) To convert binary data to a more compact format
D) To convert binary data to its equivalent Gray code
Answer: C) To convert binary data to a more compact format
Explanation: Encoder compresses binary data into a more compact format for transmission or

storage.

20.Which logic circuit is used to perform logical AND operation?
A) Multiplexer
B) Demultiplexer
C) Encoder
D) Gate
Answer: D) Gate
Explanation: Logic gates such as AND gate perform logical AND operations on input signals.

Related Posts:

1. Digital Systems MCQ
2. Sequential logic MCQ
3. Analog/Digital Conversion, Logic Gates, Multivibrators, and IC 555 MCQ
4. Introduction to Digital Communication MCQ
5. Introduction to Energy Science MCQ
6. Ecosystems MCQ
7. Biodiversity and its conservation MCQ
8. Environmental Pollution mcq
9. Social Issues and the Environment MCQ
10. Field work mcq
11. Discrete Structure MCQ
12. Set Theory, Relation, and Function MCQ
13. Propositional Logic and Finite State Machines MCQ
14. Graph Theory and Combinatorics MCQ
15. Relational algebra,Functions and graph theory MCQ
16. Data Structure MCQ

17. Stacks MCQ
18. TREE MCQ
19. Graphs MCQ
20. Sorting MCQ
21. Introduction to Object Oriented Thinking & Object Oriented Programming MCQ
22. Encapsulation and Data Abstraction MCQ
23. MCQ
24. Relationships – Inheritance MCQ
25. Polymorphism MCQ
26. Library Management System MCQ
27. Numerical Methods MCQ
28. Transform Calculus MCQ
29. Concept of Probability MCQ
30. Algorithms, Designing MCQ
31. Study of Greedy strategy MCQ
32. Concept of dynamic programming MCQ
33. Algorithmic Problem MCQ
34. Trees, Graphs, and NP-Completeness MCQ
35. The Software Product and Software Process MCQ
36. Software Design MCQ
37. Software Analysis and Testing MCQ
38. Software Maintenance & Software Project Measurement MCQ
39. Computer Architecture, Design, and Memory Technologies MCQ
40. Basic Structure of Computer MCQ
41. Computer Arithmetic MCQ
42. I/O Organization MCQ
43. Memory Organization MCQ

44. Multiprocessors MCQ
45. Introduction to Operating Systems MCQ
46. File Systems MCQ
47. CPU Scheduling MCQ
48. Memory Management MCQ
49. Input / Output MCQ
50. Operating Systems and Concurrency
51. Software Development and Architecture MCQ
52. Software architecture models MCQ
53. Software architecture implementation technologies MCQ
54. Software Architecture analysis and design MCQ
55. Software Architecture documentation MCQ
56. Introduction to Computational Intelligence MCQ
57. Fuzzy Systems MCQ
58. Genetic Algorithms MCQ
59. Rough Set Theory MCQ
60. Introduction to Swarm Intelligence, Swarm Intelligence Techniques MCQ
61. Neural Network History and Architectures MCQ
62. Autoencoder MCQ
63. Deep Learning MCQs
64. RL & Bandit Algorithms MCQs
65. RL Techniques MCQs
66. Review of traditional networks MCQ
67. Study of traditional routing and transport MCQ
68. Wireless LAN MCQ
69. Mobile transport layer MCQ
70. Big Data MCQ

71. Hadoop and Related Concepts MCQ
72. Hive, Pig, and ETL Processing MCQ
73. NoSQL MCQs Concepts, Variations, and MongoDB
74. Mining social Network Graphs MCQ
75. Mathematical Background for Cryptography MCQ
76. Cryptography MCQ
77. Cryptographic MCQs
78. Information Security MCQ
79. Cryptography and Information Security Tools MCQ
80. Data Warehousing MCQ
81. OLAP Systems MCQ
82. Introduction to Data& Data Mining MCQ
83. Supervised Learning MCQ
84. Clustering & Association Rule mining MCQ
85. Fundamentals of Agile Process MCQ
86. Agile Projects MCQs
87. Introduction to Scrum MCQs
88. Introduction to Extreme Programming (XP) MCQs
89. Agile Software Design and Development MCQs
90. Machine Learning Fundamentals MCQs
91. Neural Network MCQs
92. CNNs MCQ
93. Reinforcement Learning and Sequential Models MCQs
94. Machine Learning in ImageNet Competition mcq
95. Computer Network MCQ
96. Data Link Layer MCQ
97. MAC Sub layer MCQ

98. Network Layer MCQ
99. Transport Layer MCQ
100. Raster Scan Displays MCQs
101. 3-D Transformations MCQs
102. Visualization MCQ
103. Multimedia MCQs
104. Introduction to compiling & Lexical Analysis MCQs
105. Syntax Analysis &Syntax Directed Translation MCQs
106. Type Checking & Run Time Environment MCQs
107. Code Generation MCQs
108. Code Optimization MCQs
109. INTRODUCTION Knowledge Management MCQs
110. Organization and Knowledge Management MCQs
111. Telecommunications and Networks in Knowledge Management MCQs
112. Components of a Knowledge Strategy MCQs
113. Advanced topics and case studies in knowledge management MCQs
114. Conventional Software Management MCQs
115. Software Management Process MCQs
116. Software Management Disciplines MCQs
117. Rural Management MCQs
118. Human Resource Management for rural India MCQs
119. Management of Rural Financing MCQs
120. Research Methodology MCQs
121. Research Methodology MCQs
122. IoT MCQs
123. Sensors and Actuators MCQs
124. IoT MCQs: Basics, Components, Protocols, and Applications

125. MCQs on IoT Protocols
126. IoT MCQs
127. INTRODUCTION Block Chain Technologies MCQs
128. Understanding Block chain with Crypto currency MCQs
129. Understanding Block chain for Enterprises MCQs
130. Enterprise application of Block chain MCQs
131. Block chain application development MCQs
132. MCQs on Service Oriented Architecture, Web Services, and Cloud Computing
133. Utility Computing, Elastic Computing, Ajax MCQs
134. Data in the cloud MCQs
135. Cloud Security MCQs
136. Issues in cloud computinG MCQs
137. Introduction to modern processors MCQs
138. Data access optimizations MCQs
139. Parallel Computing MCQs
140. Efficient Open MP Programming MCQs
141. Distributed Memory parallel programming with MPI MCQs
142. Review of Object Oriented Concepts and Principles MCQs.
143. Introduction to RUP MCQs.
144. UML and OO Analysis MCQs
145. Object Oriented Design MCQs
146. Object Oriented Testing MCQs
147. CVIP Basics MCQs
148. Image Representation and Description MCQs
149. Region Analysis MCQs
150. Facet Model Recognition MCQs
151. Knowledge Based Vision MCQs

152. Game Design and Semiotics MCQs
153. Systems and Interactivity Understanding Choices and Dynamics MCQs
154. Game Rules Overview Concepts and Case Studies MCQs
155. IoT Essentials MCQs
156. Sensor and Actuator MCQs
157. IoT Networking & Technologies MCQs
158. MQTT, CoAP, XMPP, AMQP MCQs
159. IoT MCQs: Platforms, Security, and Case Studies
160. MCQs on Innovation and Entrepreneurship
161. Innovation Management MCQs
162. Stage Gate Method & Open Innovation MCQs
163. Innovation in Business: MCQs
164. Automata Theory MCQs
165. Finite Automata MCQs
166. Grammars MCQs
167. Push down Automata MCQs
168. Turing Machine MCQs
169. Database Management System (DBMS) MCQs
170. Relational Data models MCQs
171. Data Base Design MCQs
172. Transaction Processing Concepts MCQs
173. Control Techniques MCQs
174. DBMS Concepts & SQL Essentials MCQs
175. DESCRIPTIVE STATISTICS MCQs
176. INTRODUCTION TO BIG DATA MCQ
177. BIG DATA TECHNOLOGIES MCQs
178. PROCESSING BIG DATA MCQs

179. HADOOP MAPREDUCE MCQs
180. BIG DATA TOOLS AND TECHNIQUES MCQs
181. Pattern Recognition MCQs
182. Classification Algorithms MCQs
183. Pattern Recognition and Clustering MCQs
184. Feature Extraction & Selection Concepts and Algorithms MCQs
185. Pattern Recognition MCQs
186. Understanding Cybercrime Types and Challenges MCQs
187. Cybercrime MCQs
188. Cyber Crime and Criminal justice MCQs
189. Electronic Evidence MCQs
190. Programming Practices MCQ
191. Array MCQS
192. Unix/Linux MCQs
193. Biodiversity and its conservation MCQs
194. Frequency domain representation of signal mcqs
195. State Space & Control Systems MCQs
196. The z-Transformmcqs
197. Propagation of radio waves mcqs
198. Satellite Systems and Orbital Mechanics MCQs
199. Embedded System Architecture mcqs
200. Rectifiers and Thyristors MCQs