1. Which of the following is an advantage of digital instruments over analog instruments?

a) Higher cost
b) Limited accuracy
c) Susceptible to noise
d) Ease of interfacing with digital systems

Answer: d) Ease of interfacing with digital systems

Explanation: Digital instruments can easily communicate with other digital devices, making them suitable for integration into digital systems and automation.

2. What type of DAC uses a network of resistors to perform digital-to-analog conversion?

a) Variable resistive type
b) Binary ladder
c) Weighted converter using Op-amp and transistor
d) Dual Slope Integrating Type

Answer: a) Variable resistive type

Explanation: Variable resistive type DAC uses a network of resistors whose values can be varied to produce different analog output voltages corresponding to digital inputs.

3. Which DAC architecture employs a ladder network of resistors in a binary-weighted fashion?

a) R-2R ladder Type

b) Binary ladder
c) Weighted converter using Op-amp and transistor
d) Ramp Technique

Answer: a) R-2R ladder Type

Explanation: R-2R ladder Type DAC utilizes a ladder network of resistors with a specific binary-weighted pattern to generate analog voltages.

4. In ADC, which technique involves charging a capacitor for a fixed period and measuring the voltage across it?

a) Ramp Technique
b) Integrating Type (voltage to frequency)
c) Successive Approximations
d) Dual Slope Integrating Type

Answer: d) Dual Slope Integrating Type

Explanation: In the Dual Slope Integrating Type ADC, a capacitor is charged for a fixed time interval, then discharged at a constant rate while measuring the voltage across it to determine the digital output.

5. What is the primary advantage of digital voltmeters compared to analog voltmeters?

a) Higher sensitivity
b) Lower resolution
c) Susceptibility to environmental factors

d) Accuracy and precision

Answer: d) Accuracy and precision

Explanation: Digital voltmeters offer higher accuracy and precision compared to analog voltmeters, making them more reliable for precise measurements.

6. Which parameter determines the finest increment of measurement in a digital multi-meter?

a) Accuracy
b) Sensitivity
c) Resolution
d) Precision

Answer: c) Resolution

Explanation: Resolution in a digital multi-meter refers to the smallest increment of measurement it can display, determining the level of detail in the measurements.

7. Which ADC technique involves comparing the input voltage with a known reference voltage and iteratively adjusting the digital output until the two voltages match?

a) Ramp Technique
b) Integrating Type (voltage to frequency)
c) Successive Approximations
d) Dual Slope Integrating Type

Answer: c) Successive Approximations

Explanation: Successive Approximations ADC compares the input voltage with a known reference voltage and iteratively refines the digital output to converge towards the input voltage.

8. Which DAC architecture utilizes the principle of weighted summing amplifiers to generate the analog output?

a) R-2R ladder Type
b) Binary ladder
c) Weighted converter using Op-amp and transistor
d) Practical DAC

Answer: c) Weighted converter using Op-amp and transistor

Explanation: Weighted converter using Op-amp and transistor DAC architecture utilizes weighted summing amplifiers to produce the analog output voltage.

9. What is the purpose of a ramp generator in the Ramp Technique ADC?

a) To generate a reference voltage
b) To produce a linearly increasing voltage
c) To control the switching of analog switches
d) To provide power to the Op-amp

Answer: b) To produce a linearly increasing voltage

Explanation: In the Ramp Technique ADC, the ramp generator generates a voltage that linearly increases with time, which is compared with the input voltage to determine the digital output.

10. Which type of DAC offers improved linearity and reduced complexity compared to other architectures?

a) Binary ladder
b) Weighted converter using Op-amp and transistor
c) R-2R ladder Type
d) Practical DAC

Answer: c) R-2R ladder Type

Explanation: R-2R ladder Type DAC provides improved linearity and reduced complexity compared to other DAC architectures, making it commonly used in many applications.

11. In ADC, which technique involves measuring the time taken for a voltage ramp to reach a certain level?

a) Dual Slope Integrating Type
b) Ramp Technique
c) Integrating Type (voltage to frequency)
d) Successive Approximations

Answer: a) Dual Slope Integrating Type

Explanation: In the Dual Slope Integrating Type ADC, the time taken for a voltage ramp to

reach a certain level is measured to determine the input voltage.

12. Which parameter of a digital multi-meter refers to its ability to detect small changes in input voltage?

a) Accuracy
b) Sensitivity
c) Resolution
d) Precision

Answer: b) Sensitivity

Explanation: Sensitivity in a digital multi-meter refers to its ability to detect small changes in input voltage, indicating its responsiveness to subtle variations.

13. What is the primary advantage of a practical DAC over other types?

a) Higher cost
b) Lower complexity
c) Reduced linearity
d) Limited resolution

Answer: b) Lower complexity

Explanation: Practical DACs offer lower complexity compared to other types, making them more straightforward to implement and integrate into systems.

14. Which ADC technique involves counting the number of clock pulses required for a ramp

signal to return to zero?

a) Successive Approximations
b) Ramp Technique
c) Dual Slope Integrating Type
d) Integrating Type (voltage to frequency)

Answer: c) Dual Slope Integrating Type

Explanation: In the Dual Slope Integrating Type ADC, the number of clock pulses required for a ramp signal to return to zero is counted to determine the input voltage.

15. What is the primary advantage of digital-to-analog conversion compared to analog-to-digital conversion?

a) Higher complexity
b) Limited accuracy
c) Ease of implementation
d) Susceptibility to noise

Answer: c) Ease of implementation

Explanation: Digital-to-analog conversion is often easier to implement compared to analog-to-digital conversion, especially in digital systems where processing and manipulation of digital signals are more straightforward.

Related posts:

1. Theory of Measurement MCQs
2. Cathode Ray Tubes, Oscilloscopes, and Bridge Circuits MCQs
3. Transducer MCQs
4. Signal and Function Generators, Displays MCQS
5. Web Development Essentials MCQs
6. HTML MCQs
7. Style sheets MCQs
8. XML MCQs
9. PHP and MySQL MCQs
10. Basics of programming MCQs
11. Decision control structure MCQs
12. Array MCQS
13. C Programming Essentials Structures, Preprocessor, and Unions MCQs
14. Basic concepts of OOP MCQS
15. Unix/Linux MCQs
16. The Shell Basic Commands, Shell Programming MCQs
17. File System MCQs
18. Process Control MCQS
19. System Security MCQs.
20. Dynamic Host Configuration Protocol MCQs
21. Introduction to Energy Science MCQs
22. Ecosystems mcqs
23. Biodiversity and its conservation MCQs
24. Environmental Pollution mcqs
25. Social Issues and the Environment mcqs

26. Signals and Systems MCQs
27. Linear Time- Invariant Systems mcqs
28. z-Transform mcqs
29. Fourier analysis of discrete time signals mcqs
30. State-Space Analysis, Sampling Theorem, and Signal Reconstruction mcqs
31. Frequency domain representation of signal mcqs
32. Modulation Techniques mcqs
33. FM Modulation & Transmission MCQs
34. Understanding AM and FM Transmission Noise and Receiver Characteristics
35. Control System MCQs: Basics, Feedback, and Analysis
36. Control System Analysis MCQs
37. Frequency Domain Analysis MCQs
38. System Design and Compensation Techniques MCQs
39. State Space & Control Systems MCQs
40. Feedback Amplifiers and Oscillators MCQs
41. Introduction to ICs and Op-Amps MCQs
42. Op-Amp Characteristics MCQs
43. OP-AMP applications MCQs
44. Electronic Circuits with 555 Timer MCQs
45. Voltage Regulator MCQs
46. Discrete-Time Signals and Systems MCqs
47. The z-Transformmcqs
48. Frequency Analysis of Discrete Time Signals mcqs
49. Efficient Computation of the DFT mcqs
50. Digital filters Design Techniques Mcqs
51. Radiation mcqs
52. Antenna Fundamentals mcqs

53. Types of antennas mcqs
54. Aperture and slot mcqs
55. Propagation of radio waves mcqs
56. Data Communication mcqs
57. OSI model mcqs
58. ERROR CONTROL AND DATA LINK PROTOCOLS mcqs
59. NETWORKS mcqs
60. NETWORKING DEVICES AND TCP / IP PROTOCOL SUITE mcqs
61. CMOS VLSI Circuit Design MCQs
62. Specification of sequential systems mcqs
63. Satellite Systems and Orbital Mechanics MCQs
64. Satellite Communication & Polarization MCQs
65. Satellite and Earth Segment MCQs
66. Satellite Communication MCQs
67. Satellite Services MCQs
68. 8051 Interfacing & Serial Communication MCQs
69. MCU Overview 8096 and PIC mcqs
70. Introduction to Embedded Systems mcqs
71. Embedded System Architecture mcqs
72. Input Output and Peripheral Devices mcqs
73. PHYSIOLOGY AND TRANSDUCERS mcqs
74. ELECTRO – PHYSIOLOGICAL MEASUREMENTS mcqs
75. NON-ELECTRICAL PARAMETER MEASUREMENTS mcqs
76. MEDICAL IMAGING MCQS
77. ASSISTING AND THERAPEUTIC EQUIPMENTS MCQS
78. Power Semiconductor Switches MCQS
79. Rectifiers and Thyristors MCQs

80. Inverters & Cycloconverters Inverters MCQs
81. AC Voltage Controllers MCQs
82. DC – DC Converters MCQS
83. Practical Consideration and Technology in VLSI Design MCQs
84. Device Modeling MCQs
85. Circuit Simulation MCQs
86. Structured Digital Circuits and Systems MCQs
87. CMOS Processing Technology MCQs
88. Microwave Engineering MCQs
89. Microwave Semiconductor Devices MCQs
90. RF Network Analysis & Measurement MCQs
91. Microwave Components and Circuits MCQs
92. RF & Microwave Circuit Design MCQs
93. Information Theory MCQs
94. Coding theorem MCQs
95. Information Channels MCQs
96. Error Control Coding MCQs
97. BCH and Convolutional Codes MCQs
98. Nanoscale Semiconductor Physics MCQs
99. Introduction to lithography MCQs
100. Tunnel Junctions and Tunneling Phenomena MCQs
101. Nanoelectronics MCQs
102. Scaling of physical systems MCQs
103. Cellular Mobile Systems MCQs
104. Wireless Communication Essentials MCQs
105. Cochannel interference reduction MCQs
106. Types of Noncochannel interference MCQS

107. Cellular Network Management MCQs
108. Digital Cellular Systems MCQs
109. IoT Essentials MCQs
110. IoT Technologies MCQs
111. Design Principles for Web Connectivity MCQs
112. IoT Technologies MCQS
113. IOT Design methodology MCQs
114. Probability and Random Variable MCQs
115. Probability Distributions and Expectations MCQs
116. Multiple Random Variables MCQS
117. Stochastic Processes MCQs
118. Optical Fiber Basics MCQs
119. Signal degradation in Optical Fibre MCQs
120. Optical sources and detectors MCQs
121. Optical Communication MCQs
122. Optical networks and amplifiers MCQS
123. 5G Wireless Communications MCQ
124. 5G Wireless Propagation Channels MCQS
125. 5G Transmission and Design Techniques MCQS
126. D2D and M2M Communications MCQS
127. Millimeter-Wave Communications MCQs
128. Review of Cellular Networks MCQS
129. LTE systems MCQS
130. Wireless Sensor Networks MCQS
131. Wireless routing Protocols MCQS
132. Internet of things (IoT) and GPS systems MCQS
133. Digital Image Processing MCQs

188. Forces on immersed bodies MCQs
189. Methods of Impact Identification MCQs
190. Decision Models MCQs
191. Groundwater and Well Dynamics MCQs
192. Types of Bridge Super Structures MCQs
193. Design of structure for earthquake resistance MCQS
194. Damage Assessment MCQs
195. Conventional and Non-conventional Techniques for Water Security MCQs
196. Harmonically excited Vibration MCQS
197. Dynamics of Engine Mechanisms MCQs
198. Automobile emissions MCQS
199. Quality Management process MCQs
200. Static & Dynamic Analysis MCQs