Ans. Microcontroller

Ques20. Another name for a Microcontroller is _____:
Ans. Embedded controller

Ques21. Microcontroller has_____ Memory?
Ans. Internal

Ques22. Microprocessor has_____ Memory?
Ans. External

Ques23. Which is monitored using temperature sensor and data is stored/ analysed locally.
Ans. Room temperature

Ques24. An Embedded system is a combination of ____and____.
Ans. Hardware and software

Ques25. MQ-135 is a_____.
Ans. Sensor

Ques26____is the name of the tactile sensor.
Ans. Touch sensor

Ques27. How many bit instruction set is used by ARM7
Ans. 32-bit

Ques28. A Microprocessor work using_____ digit(s).
Ans. 0 and 1

Ques29. New device ID Should be a_____.
Ans. globally unique identifier

Ques30. The level shifter converts the voltage levels between _____and_____.
Ans. RS-232 and transistor-transistor logic

Ques31. Which sensor is used for monitor electric distribution and switching equipment temperature?
Ans. RFM3200

Ques32. Which is thermally sensitive resistor that exhibits a large change in resistance?
Ans. Thermistor

Ques33. Gyroscope is used for_____.
Ans. Gaming

Ques34. Gyroscope is used to measure____.
Ans. Angular velocity

Ques35. Program counter stores_____.
Ans. Address of the next instruction

Ques36. _____is the operating voltage of Atmega328.
Ans. 1.8V to 5.5V

Ques37. The drawback of using Lockitron is that_____.
Ans. It supports in some devices only

Ques38. What is the size of the 8051 microcontroller?
Ans. 8 bit

Ques39. Which pin provides a reset option in 8051?
Ans. Pin 9

Ques40. How many interrupts are there in microcontroller.
Ans. 5

Ques41. An Embedded system can be classified into how many types
Ans. Two.

Ques42. Which are the class of microcontrollers performance based embedded systems.
Ans. Small scale. Medium scale and Sophisticated scale

Ques43. Which is an example of small scale embedded system.
Ans. Printer

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Ques44. What is an example of medium scale embedded system.
Ans. DSP

Ques45. What is an example of sophisticated scale embedded system?
Ans. IP cameras

Ques46. Which device which converts signals from one form to another?
Ans. Transducer

Ques47. What are the examples of an embedded system that completes its task?
within its deadline.
Ans. Traffic lights and Buzzer

Ques48. What is the type of embedded system reaching its dead line to complete a task may vary.
Ans. Microwave oven

Ques49. If the deadline of an embedded system cannot complete its task within its deadline, then it is called____ type of embedded system.
Ans. Soft real Time

Ques50. Who specifies pin number 40 in 8051 controller IC.
Ans. VCC

Ques51._____ specifies pin number 14 in 8051 controller IC.
Ans. T0

Ques52. An embedded system contains _____number of bit processor.
Ans. 3

Ques53. Atmega328 controller is designed with _____ bits.
Ans. 8 bits

Ques54._____
component of basic ES(Embedded system) architecture executes
tasks and stockpiles in memory.
Ans. Processor

Ques55. Which component of Embedded system architecture relates DAC result with expected result.
Ans. Actuators

Ques56. _____devices that performs input system in a system as they sense the changes in a quantity.
Ans. Sensors

Ques57. Which IC contains memory, input output peripherals along with processing capability.
Ans. Microcontroller

Ques58. Which is considered as the heart component of ES
Ans. Processor

Ques59. _____specifies pin 9 in 8051 Microcontroller IC.
Ans. RST

Ques60. 8085 processors were designed by___
Ans. Intel

Ques61. Sensors and actuators data output is very easy to read and _____
Ans. Write

Ques62. The sensor classes are categorized into _____based on the both output and data type.
Ans. Two

Ques63. The RS pin is _____ for an LCD.
Ans. Input

Ques64. WSN stands for ____.
Ans. Wireless Sensor Network

Ques65. Which component of an IoT system

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that executes a program
Ans. Microcontroller

Ques66. Barometer is a type of_____ sensor
Ans. Pressure Sensor

Ques67. A microcontroller is a small, low cost and self contained computer on a chip that can be used as an:
Ans. Embedded System

Ques68._____sensors do require an external power source to monitor an environment
Ans. Active

Ques69. A_____ tends to convert physical attribute to an electrical signal
Ans. sensor

Ques70. PIC 18F8720,MAX32620, MCU are the example of:
Ans. Microcontrollers

Ques71. What are the pipelining stages include
Ans. Fetch,Decode, execute

Ques72. What are the components of Microcontroller.
Ans. RAM, ROM and Timers

Ques73. Global Sensor Network is built for:
Ans. reducing the cost and time for development

Ques74. Which sensor can detect nearby objects
Ans. Proximity

Ques75. IoT is based on both technology:
Ans. Hardware and software

Ques76. A Microcontroller sometimes abbreviated as:
Ans. um, uc, and MCU

Ques77. Which sensors produce digital outputs that can be directly interfaced with the digital controller.
Ans. Digital

Ques78. Which are the embedded components of plug in based card.
Ans. Memory, Power supply and External Interfaces

Ques79. Which are the current embedded system being used in modern technology.
Ans. Microprocessor, Microcontrollers and DSP processors

Ques80. Which command line utility allows us to perform specific interactions with Intel IOT analytics.
Ans. IOT-Kit-admin

Ques81. What Number of 1/0 ports in the 8051 microcontroller
Ans. 4

Ques82. What are the class of performance and functional based requirement embedded system.
Ans. Real Time, Stand alone, and Mobile

Ques83. Smart digital wrist watch, Doorbell and Washing Machine all are examples of a standalone:
Ans. embedded system

Ques84. Unique functionality, Constraint metrics, and Real time based application all are the characteristics of an:
Ans. Embedded system

Ques85. What are the basic components of an ES architecture
Ans. Sensor, ADC, DAC converters, and Actuators

Ques86. What are the serial type communication interfaces for

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microprocessor.
Ans. RS-232, RS 422, and SPI

Ques87. A network of physical objects or things embedd ed with electronics or software is:
Ans. IOT

Ques88. Open IoT manages the registration, data acquisition, deployment of sensors and interconnected of objects, through which network?
Ans. X-GSM

Ques89. A sensor uses which Networks?
Ans. LAN, PAN and HAN

Ques90. Which actuators use pressurized oil that is incompressible.
Ans. Hydraulic

Ques91. Light Dependent Resistor is the full form of____ sensor.
Ans. LDR

Ques92. Arduino UNO, Arduino Nano, and Arduino Mini pro are the applications of:
Ans. Atmega 328

Ques93. What is the advantage of embedded system.
Ans. Minimum power consumption

Ques94. What are the disadvantages of embedded system
Ans. High technology, Long Marketing

Ques95. Electronic circuit interfaces with components in WSN
Ans. Sensor and energy source

Ques96. What are the medical applications of embedded system
Ans. CT, MRI, and PET

Ques97. Which hardware is used as alternative for an embedded system.
Ans. ICE (In-Circuit Emulator)

Ques98. 8051 and ATmega328 IC are:
Ans. Microcontrollers

Ques99. Which is the embedded system software converts each line of assembly based code to machine based code at a time.
Ans. Assembler

Ques100. Which software represents machine based code in target base code and verifies errors in code.
Ans. Compiler

Ques101. What are the standard peripherals of an embedded system
Ans. RS232, Ethernet and CAN bus

Ques102. DHT11 is_____ sensor
Ans. Humidity

Ques103. What is an example of embedded memory microcontroller
Ans. Intel 8051 microcontroller

Ques104. Touch screen devices use ____sensor.
Ans. Pressure

Ques105. Which type of phone sensor is used in screen brightness adjustment.
Ans. Ambient Light sensor

Ques106. What enables production-ready feature to the spring boot application
Ans. Actuators

Ques107. What motion type of motion is transmitted by hydraulic actuators.
Ans. linear and rotary

Ques108. of the motions in actuators are preferred .

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Ans. Rotary

Ques109. Actuators includes:
Ans. Motors, gears, Pumps, pistons. Valves, and Switches

Ques110. Different kind of signal are:
Ans. Mechanical, Thermal, Magnetic, Electric, Chemical and Radiation

Ques111. Some examples of Microprocessor are:
Ans. TMS 1000, Intel 4000, and Motorola 68000

Ques112. Which sensors do not require an external power source to monitor an environment?
Ans. Passive

Ques113. The Role of Gateway in Smart grid architecture of IOT is:
Ans. Collect data

Ques114. The architecture and the instruction set for microcontroller are:
Ans. Harvard Architecture with CISC Instruction Set

Ques115. Which is used to capture data from the physical world in IOT devices.
Ans. Sensor

Ques116. CPU, RAM, ROM, I/O Ports and timers must be present in a:
Ans. Microcontroller

Ques117. Basic functions of a Timer are:
Ans.
Control the compare, capture mode
Act as a counter
Provide a time delay

Ques118. If 1 means an object is detected and 0 meaning no object is detected, then considering the sensor stationary, if the output by the sensor is observed as 111000.
Ans. object can be moving away

Ques119. _____bytes is the size of RAM memory in 8051.
Ans. 128

Ques120. Object Detection is the use of which sensor?
Ans. IR sensor

Ques121. Most sensors have which type of transfer function.
Ans. Linear

Ques122. LDR sensor works on the principle of:
Ans. Photoconductivity

Ques123. What is the efficiency of the DC motor at maximum power?
Ans. Less than 50%

Ques124. Which devices are specifically being used for converting serial to parallel and from parallel to serial respectively?
Ans. Registers

Ques125. The actuators used in IOT applications are:
Ans. Relay, Servo Motors and DC motors

Ques126. What helps in carrying out floating point calculations?
Ans. Coprocessor

Ques127. Which is heart of Computer system?
Ans. Processor

Ques128. Sensor effectiveness depends on parameters.
Ans. Sensitivity

Ques129_____is a type of Gas Sensor

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Ans. MQ-135

Ques130. The process of removing certain band of frequencies from a signal while permitting other is called as:
Ans. Filtering

Ques131. What is the bit size used in 8051
Ans. 8 bit

Ques132. Spring Boot Actuator exposes operational information about running application using which endpoints.
Ans. HTTP

MCQ Questions

Ques133. Sensor effectiveness depends on which of the following parameters?
Ans. a) Radiation b) Resistivity
c) Sensitivity d) All of the above

Ques134. Which processor helps in carrying out floating point calculations?
Ans. a) Microprocessor b) Coprocessor
c) Microcontroller d) Controller

Ques135. LDR sensor works on the principle of :
Ans. a) Resistivity
b) Photoconductivity
c) Conductivity
d) Both (a) and (c)

Ques136. Which memory storage is widely used in Embedded Systems ?
Ans. a) EEPROM b) DRAM
c) Flash memory d) SRAM

Ques137. The actuators used in IoT applications are:
Ans. a) Relay b) Servo Motors
c) DC Motors d) All of these

Ques138. Which of the following is the basic functions of a timer ?
Ans.
a) Control the compare, capture mode
b) Act as a counter
c) Provide a time delay
d) All of these

Ques139. Which of the following devices are specifically being used for converting serial to parallel and from parallel to serial respectively?
Ans. a) Microcontroller b) Timers
c) Counters d) Registers

Ques140. Which of the following must be present in a microcontroller?
Ans.
a) CPU, ROM, I/O ports and timers
b) RAM, ROM, I/O ports and timers
c) CPU, RAM, I/O ports and timers
d) CPU, RAM, ROM, I/O ports and timers

Ques141. Most sensors have what type of transfer function?
Ans.a) Zero b) Infinity
c) Linear d) Non-linear

Ques142____is heart of Computer system
Ans. a) Memory b) I/O
c) Counter d) Processor

Ques143. These applications take data or input from various devices and convert it into viable actions or clear patterns for human analysis.
Ans. a) Real Time Analytics
b) Data Collection
c) Device Integration
d) Real Time Collection

Ques144. MQ-135 is a type of_____.
Ans. a) Humidity sensor
b) Gas sensor
c) Light sensor
d) Temperature sensor

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Ques145. HC-05 is a Bluetooth module that can communicate in which mode?
Ans. a) Simplex b) Duplex
c) Full-Duplex d) None of these

Ques146. Which rule is used to decide the direction of rotation of DC motor?
Ans. a) Coulomb's Law
b) Lenz's Law
c) Fleming's Right-hand Rule
d) Fleming's Left-hand Rule

Ques147. What is the size of RAM memory in 8051?
Ans. a) 32 bytes b) 64 bytes
c) 128 bytes d) 256 bytes

Ques148. During embedded design, which design considers both hardware and software?
Ans. a) Memory Design
b) Software / hardware Design
c) Platform-based Design
d) Peripheral Design

Ques149. What is the use of the IR Sensor?
Ans. a) Humidity Detection
b) Image Processing
c) Object Detection
d) GPS

Ques150. What is the bit size used in 8051?
Ans. a) 4 bit b) 16 bit
c) 32 bit d) 8 bit

Ques151. Spring Boot Actuator exposes operational information about running application using endpoints.
Ans. a) TCP b) HTTP
c) IP d) FTP

Ques152. Which sensor measure the moisture level using humidity?
Ans. a) Capacitive Sensor
b) Resistive Sensor
c) Thermal Conductivity
d) Both resistive and conductive

Ques153. Which sensor is LM35?
Ans. a) Pressure sensor
b) Touch sensor
c) Temperature sensor
d) Humidity sensor

Ques154. Which of the following is not an actuator in IOT?
Ans. a) Stepper motor b) A fan
c) An LED d) Arduino

Ques155. Electric motor protection has which sensor?
Ans. a) Pressure sensor
b) Touch Sensor
c) Temperature sensor
d) Humidity sensor

Ques156.Sensors provides___ data per second.
Ans. a) Hundreds of Hundreds of data
b) Hundreds of thousands of data
c) Tens of Hundreds of data
d) Tens of thousands of data

Ques157. Sensors convert signals from analog to which domain?
Ans. a) Digital b) Electrical
c) Mechanical d) Both (a) and (b)

Ques158. Which of the following Sensor used in Mobile phones are of type.
Ans. a) Capacitive touch b) Thermistor
c) LDR sensor d) Resistive sensor

Ques159. Main components of IoT based system are:
Ans. a) Sensors b) Actuators
c) Microcontrollers d) All of the above

Ques160. MQTT suits are
Ans. a) Small and cheap devices
b) Low memory devices

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c) Low power devices
d) All of the above

Ques161. An IOT device may need interfaces for:
Ans. a) Sensors
b) audio/video
c) Internet connectivity
d) All of these

Ques162. In Which sensor is linear and low accuracy?
Ans. a) Thermistor
b) Resistance Thermometer
c) Thermocouple
d) Semiconductor based sensor

Ques163. Humidity sensor is related to:
Ans.
a) DHT11
b) Hygrometer
c) Parts Per Million or Relative Humidity
d) All of these

Ques164. Which of the following sensor is non contact type sensor that detects the presence of an object?
Ans. a) Proximity sensor
b) Temperature sensor
c) light sensor
d) Pressure sensor

Ques165. DHT22 sensor is used to sense:
Ans. a) Obstacles b) Resistance
c) Position d) Humidity

Ques166. Which of the following is an electromechanical device that will measure acceleration forces?
Ans. a) Pressure sensor b) Accelerometer
c) Proximity sensor d) IR sensors

Ques167. What are the types of actuators.
Ans. a) Hydraulic, pneumatic actuators
b) Electrical, thermal actuators
c) Mechanical actuators
d) All of the Above

Ques168. Which of the following is not a sensor in Iot?
Ans. a) BMP280 b) DHT11
c) Photoresistor d) LED

Ques169. 8051 is?
Ans. a) 4-bit Microcontroller
b) 8-bit Microcontroller
c) 12-bit Microcontroller
d) 16-bit Microcontroller

Ques170. LDR Sensors are made of:
Ans. a) Semiconductor b) PbS
c) Lead Sulfide d) All of these

Ques171. A device which converts electrical energy into mechanical energy is:
Ans. a) Electric Motors
b) Electric generator
c) Electric Transformer
d) None of these

Ques172. Which actuators use a heat source to generate motion?
Ans. a) thermal actuators
b) Magnetic actuators
c) Both of the above
d) None of these

Ques173. Which sensor measure the pressure relative to atmospheric pressure?
Ans. a) Absolute pressure sensor
b) Gauge pressure sensor
c) Vacuum pressure sensor
d) Differential pressure sensor

Ques174. What is true about microcontroller?
Ans.
a) A microcontroller is a small and low cost microcomputer
b) Its designed to perform the specific tasks of embedded systems.

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c) Microcontroller consists of the processor, the memory, Serial ports, peripherals
d) All of the above

Ques175. Which is false about microcontroller?
Ans.
a) Microcontrollers are used to execute a single task within an application
b) It consists of CPU, RAM, ROM, I/O ports
c) Its power consumption is high because it has to control the entire system
d) It is built with CMOS technology

Ques176. The components of a sensor node is
Ans. a) Radio transceiver
b) Microcontroller
c) An electronic circuit
d) All the above

Ques177. Microprocessors have following components embedded in them:
Ans. a) RAM b) Memory
c) ROM d) None of these

Ques178. What is the order decided by a processor or the CPU of a controller to execute an Instruction?
Ans. a) decode, fetch, execute
b) execute, fetch, decode
c) fetch, decode, execute
d) fetch, execute, decode

Ques179. Which of these statements regarding sensors is true?
Ans.
a) Sensors are input devices
b) Sensors can be analog as well as digital
c) Sensors respond to some external stimuli
d) All of these

Ques180. Which of the following are hardware components of an embedded system?
Ans. a) Computer processor
b) Device peripherals
c) Computer Memory
d) All of the Above

Ques181. Keyboard pins while interfacing can cause interrupt called as:
Ans. a) Timer Interrupt
b) Software Interrupt
c) External Hardware Interrupt
d) Interfacing Interrupt

Ques182. Which of the following are the software environment used for an embedded system.
Ans. a) Proteus b) Lab view
c) MATLAB d) All of the Above

Ques183. The temperature and humidity sensor values are printed in
Ans. a) PYPI b) PIP
c) OLED matrix d) None

Ques184. Which of the following stores your application program in the microcontroller?
Ans. a) ROM b) RAM
c) USB d) Harddisk

Ques185. Which of these is a part of the Sensing Layer of the IOT Service Oriented Architecture?
Ans. a) Service Integration
b) Service repository
c) Business Logic
d) Data Sensing and actuation protocols

Ques186. Smart Fitness clothing mainly has which device?
Ans. a) Battery b) Bluetooth
c) Sensors d) Internet

Ques187. What do you mean by micro in microcontroller?
Ans. a) Distance between 2 IC's

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b) Distance between 2 transistors
c) Size of a controller
d) Distance between 2 pins

Ques188. What "bit" represents the address bit in the control register?
Ans. a) MML b) ML
c) MX d) MM

Ques189. Sensors can be:
Ans. a) Temperature b) Light
c) Motion d) All of the above

Ques190. Actuators can be
Ans. a) Display b) Monitor
c) Sound d) All of the above

Ques191.Example of sensor are:
Ans. a) Gas sensor
b) Water Quality sensor
c) Moisture sensor
d) All of above

Ques192. MQ135 Sensor is____
Ans. a) Al detector
b) Gas Sensor
c) Monitors Air Pollution
d) Both (b) and (c)

Ques193. Characteristic(s) of Microprocessors are:
Ans. a) Instruction set b) Clock speed
c) Word Length d) All of above

Ques194. A Microcontroller:
Ans. a) Saved cost
b) Save power consumption
c) Make the circuit compact
d) All of above

Ques195. Application of 8051 Microcontroller are:
Ans. a) Medical Equipment
b) Aeronautical and space
c) Defense system
d) All of the above

Ques196. The selection of Microcontroller for IOT is based on:
Ans. a) Individual characteristics
b) Stability
c) Desirable Output
d) All of these

Ques197. In Microcontroller, external access is used for:
Ans. a) Peripherals
b) Power supply
c) Latches
d) Memory Interfacing

Ques198. Microcontrollers are:
Ans. a) Embedded system
b) Application specific
c) Harvard
d) All of these

Ques199. Which of the following designed system factors are minimized for an embedded application?
Ans. a) Cost b) Size
c) Performance d) Both (a) and (b)

Ques200. IOT comprises of internet, physical devices, sensors, microcontroller, and?
Ans. a) Information b) Actuators
c) Intranet d) Electronics



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